

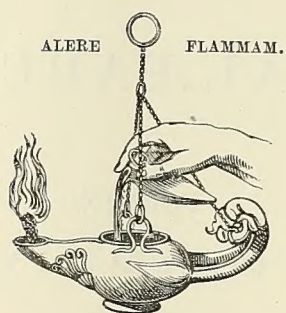
S U P P L E M E N T
TO
A H I S T O R Y
OF
THE BIRDS OF EUROPE,
INCLUDING ALL THE SPECIES INHABITING THE
WESTERN PALÆARCTIC REGION,
FORMING
VOLUME IX.

BY
H. E. DRESSER, F.L.S., F.Z.S., &c

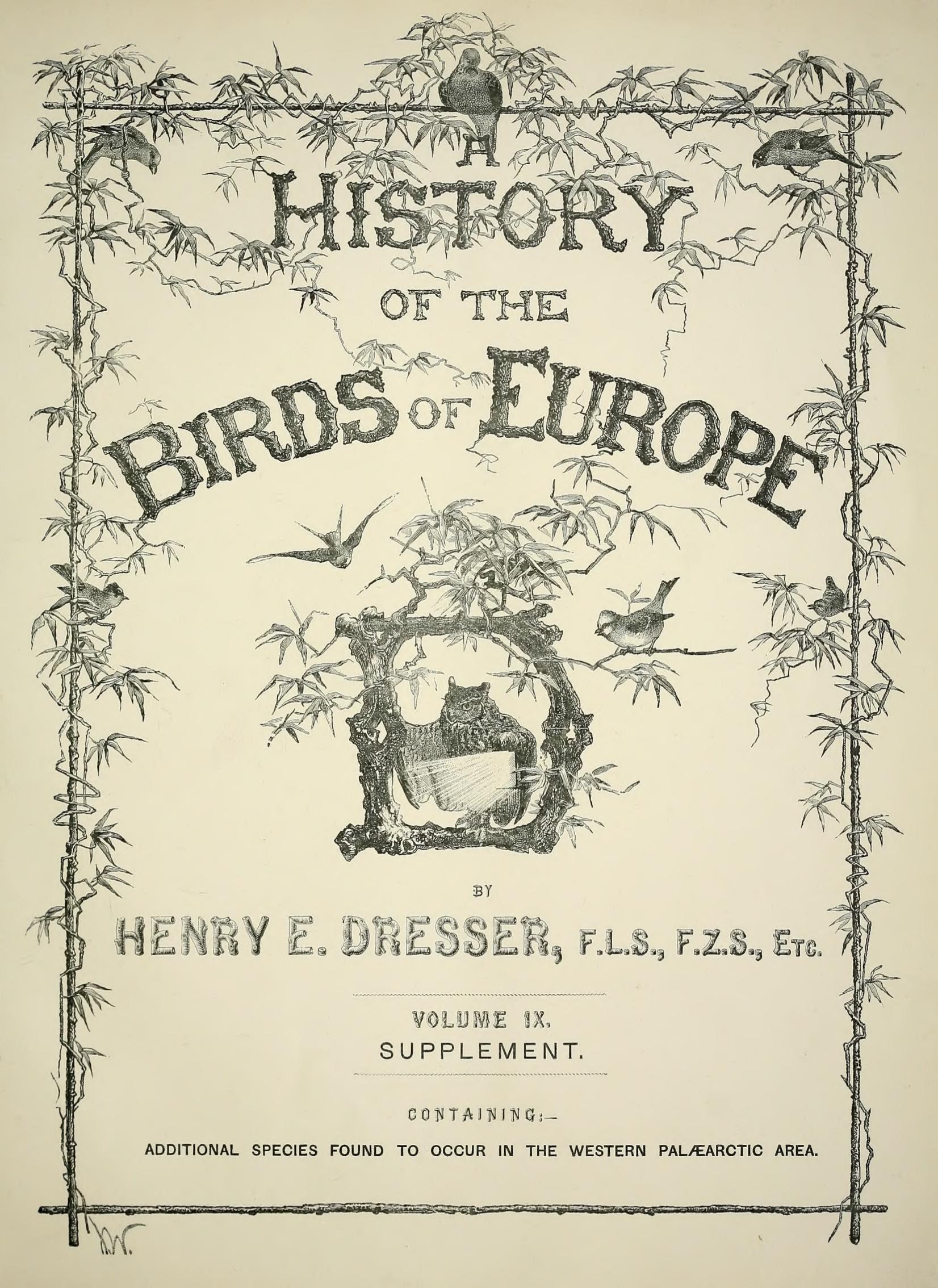


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A
HISTORY
OF THE
BIRDS OF EUROPE

BY
HENRY E. DRESSER, F.L.S., F.Z.S., ETC.

VOLUME IX.
SUPPLEMENT.

CONTAINING:—
ADDITIONAL SPECIES FOUND TO OCCUR IN THE WESTERN PALÆARCTIC AREA.

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1871
V. 9, - Supplement
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To the Memory of

LITTLE PHYLLIS,

WHOSE TOO SHORT SOJOURN HERE WAS A RAY OF PUREST SUNSHINE ON
HIS CHEQUERED PATH THROUGH LIFE,

THIS VOLUME IS DEDICATED

BY

HER SORROWING FATHER

H. E. DRESSER.

LETTERPRESS TO VOL. IX.

(SUPPLEMENT.)

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P R E F A C E.

SINCE the completion of the 'Birds of Europe,' I have several times contemplated the issue of a Supplement, but have deferred so doing until I had collected sufficient material to make a volume at least as large as any one of those forming the original work. It was suggested to me by more than one subscriber that I should revise each article in the original work, bringing the same up to date; but I found that a thorough revision, adding all the material that has since accumulated, would fill at least three if not four volumes, and that it would really be tantamount to bringing out a new edition, and I have therefore preferred merely to treat of such species as have to be added to those in the original work, and should a new edition be required I shall probably issue the same in the form of a concise handbook, condensing the information into as small a space as possible.

Some years ago I removed my library and collections to a house I built in Kent, and there the present volume has been written; but as it was necessary to publish the work, as before, in London, it has, like the first eight volumes, been published, thanks to the courtesy of the President and Council of the Zoological Society, at their office, 3 Hanover Square; and I have also to express my sincere thanks for the great assistance I have received from them, and from Mr. Waterhouse, their Librarian, in sending down books of reference when I was unable to spare the time to consult them in the Society's rich library, and also for aid in hunting up and verifying obscure references.

To the various friends, whose names are mentioned in the following pages, who have, as before, rendered me assistance during the progress of the work, I take this opportunity of tendering my hearty thanks. Many of those who so largely assisted me during the issue of the original work have unfortunately

passed away, amongst whom I must especially name Lord Lilford, whose recent death has been so great a loss to ornithologists in this country ; but many are still with us, and, as before, I am especially indebted to Professor Newton, who has kindly looked over most of the proofs for me.

All the illustrations have been executed by Mr. J. G. Keulemans, but some are copied from original drawings by Messrs. Joseph Wolf and A. Thorburn : thus those of *Phasianus persicus* and *Phasianus principalis* are copied from paintings by Mr. Thorburn, those of *Emberiza saharæ* and *Francolinus bicalcaratus* are also from sketches by Mr. Thorburn of specimens in the aviaries at Lilford Hall, and that of *Tetrao uralensis* from sketches by Mr. Wolf, kindly lent to me for that purpose.

The lithographs were printed by Messrs. Mintern, Bros., with the exception of one or two which were done by Messrs. M. & N. Hanhart, and the hand-colouring was executed by Mr. H. Piffaretti, who coloured the Plates in my 'Monograph of the Coraciidæ.' The printing, as before, has been executed by Messrs. Taylor and Francis. To all of these I beg to express my thanks for the care and attention they have bestowed on their portions of the work.

For the Index, I am indebted to Mr. W. F. Kirby, of the British Museum ; but beyond this I have had no assistance with the letterpress, and, as was the case with my previous works, all has been done in the early morning and in the evening, during the restricted time I could spare from a busy city life ; and so accustomed have I now become to utilizing my spare hours in the study of Natural History, that should my health permit I hope yet to do some (and I trust not useless) work before old age overtakes me and I find myself compelled to relinquish my work to younger and more vigorous workers. It has, however, been my chief solace during many lonely hours, and when the time comes I shall most unwillingly retire from the field.

Topcliffe Grange,
Farnborough, Kent.
9th November, 1896.

INTRODUCTION.

DURING the fifteen years which have elapsed since I wrote the last Part of the 'Birds of Europe' much has been done in working up the avifauna of Europe. Not only have many species which were then unknown and undescribed been found to inhabit the Canary Islands, but in Eastern and South-eastern Europe especially new workers have come forward who have added largely to the number of species known to inhabit the Western Palearctic Area. Russia especially has come to the front, for when I wrote the 'Birds of Europe' the only work on the ornithology of Russia was Kessler's '*Russkaya Ornitologia*,' which, being in Russian, was a closed book to most European ornithologists, whereas now, thanks to the industry of Messrs. Bogdanoff, Bianchi, Menzbier, Pleske, Radde, Zarudny, and others, we know almost as much of the ornithology of Russia as of other European countries; and when Mr. Pleske's excellent work '*Ornithographia Rossica*' is completed Russia will be able to boast of a work fully equal to that on the ornithology of any European country. Unfortunately, owing to the weak health of Mr. Pleske, only one volume, containing the *Sylviinæ*, has been issued; but other Russian ornithologists, of whom there are now several excellent ones at work, will certainly continue the work so ably begun by Mr. Pleske, should he himself be unable to do so.

The result of the labours of these Russian ornithologists has convinced me, however, that I was wrong in fixing the south-eastern limits of the Western Palearctic Area as I then did, for they have shown that almost all the species found in the Persian Province occur also in South-eastern Russia, and I have therefore found it necessary to enlarge the area in that direction and to include the whole of the elevated plateau of Persia. The eastern boundary I then adopted consisted of the Ural range of mountains and river down to the mouth of the Ural River, taking an imaginary line from thence along the eastern shores of the Caspian to the frontiers of Persia, thence across to the Euphrates, and southward along the borders of the Arabian Desert, so as to include Syria and Arabia Petræa, down to the Red Sea, but excluding the Jordan valley, the fauna of which is essentially Ethiopian. Now, however, I find that I must adopt as the

eastern boundary the Ural range and river down to Orenburg, whence I draw an imaginary line to the south-east so as to include the Sea of Aral, Bokhara, Afghanistan, and the whole of the Persian tableland, and thence westward skirting the Arabian Desert to the northern portion of the Rea Sea, but, as before, excluding the valley of the Jordan. The southern boundary, however, is the same as I then adopted. As will be seen from the above, I now include the whole of the Persian Province in the Western Palæarctic Area, whereas in the 'Birds of Europe' I cut it in two, including only the western portion.

LITERATURE.

SINCE the publication of the 'Birds of Europe,' the literature of ornithology has been considerably amplified by many works on the subject published in different countries, those issued in Russia being of the greatest importance, as up to 1881 but little, comparatively speaking, was known respecting the ornithology of European Russia. I have therefore continued the list which I published in 1881 on, as far as possible, the same lines, including all independent works on the subject, but not noticing such small articles as are of little or no value, and merely enumerating such as are of special interest.

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As will be seen from the above, ornithologists in Great Britain have been very active, and we are in fact overwhelmed with works on British Ornithology, besides which other works on the same subject are projected. Professor Newton's edition of Yarrell's 'British Birds' has been completed by Mr. Howard Saunders, who has also published a most useful 'Manual of British Birds' in one volume; Lord Lilford's 'Coloured Figures of British Birds' contains the best illustrations of British birds that have yet appeared, and is nearly finished, but, unfortunately, the author has not lived to see it completed; and at least two works on the nests and eggs of our British birds, with large photographic illustrations, are in the press, of which, so far as I can judge from the illustrations I have seen, the best is that by Mr. Oswin A. J. Lees, 'Among British Birds in their Nesting Haunts,' of which the prospectus has only recently been issued, and the first part of which will appear very shortly.

On European ornithology, generally, no work has been published since 1881, except Mr. James Backhouse's 'Handbook of European Birds' (small 8vo, London, 1891); and in Scandinavia the most has been done by Prof. Robt. Collett, of Christiania, who from time to time issues additional notes on the ornithology of Norway. In Denmark several works have been issued on local avifaunas; and though I have not deemed it advisable to include in the above list Mr. H. Winge's notes on birds which have been observed at the lighthouses in Denmark (Vidensk. Medd. fra d. Naturh. Forening i Kjöbenhavn, 1890-96), these articles contain many interesting notes. 'Nordens Fåglar,' which is being published at Stockholm, promises to be an important work: based on Sundevall's 'Svenska Fåglar,' it covers a larger area, including Denmark, Norway, Sweden, and Finland, and brings the ornithology of those countries well up to date.

In Russia ornithologists have been especially busy during the last fifteen years, more good work having been done there than in almost any other European country. In the above list I have only included such works as treat of the ornithology of Western Russia, or that portion which is within the limits of the Western Palæarctic area; but, besides these, several most important works have been published, of which I may name Taczanowski's 'Faune Ornithologique de la Sibérie Orientale' (4to, St. Petersburg, 1893), Pleske's 'Revision der Turkestanischen Ornis' (4to, St. Petersburg, 1888) and 'Wissenschaftliche Resultate der von Prjevalskis nach Central Asien unternommenen Reisen: Vögel' (4to, St. Petersburg), and Menzbier's 'Ornithologie du Turkestan et des Pays adjacents' (folio, Moscou), the last two being still in course of publication.

In Germany, Austria, &c. several useful works and articles relating to the ornithology of those countries have appeared, foremost amongst which I must name Mr. Gätke's 'Vogelwarte Helgoland,' a work that cannot be too highly praised for the large amount of information on the migration of birds it contains; Friderich's 'Naturgeschichte der Vögel Deutschlands,' though only a popular and not a scientific work, is very good of its kind, but merely a compilation; and there are several articles which, though not included, not being strictly faunistic, are well worthy of notice, such as E. von Homeyer's "Wanderungen der Vögel" and "Ornithologische Briefe," Pražák's "Versuch einer Monographie der europäischen Sumpf-Meisen," Kleinschmidt's "Das Variiren des *Garrulus glandarius*," and the articles by Professor Baldamus and Dr. E. Rey on *Cuculus canorus*. Just as the present sheet was going to press I had an opportunity of seeing the first two parts of a new edition of Naumann's 'Naturgeschichte der Vögel Deutschlands' (folio, Gera, 1896), which has lately been commenced. So far as I can judge, the letterpress will be brought well up to date, but the work is unfortunately disfigured by plates which are infinitely inferior to those in the original work. France, who formerly stood in the front rank as regards ornithological literature, has produced but little during the last twenty years, and has fallen quite into the background; but as regards Italy, Professor Giglioli has kept ornithological literature well up to date. The ornithology of North Africa and the Atlantic Islands has also been well worked by Dr. Koenig and Messrs. Meade-Waldo, J. I. S. Whitaker, Ogilvie Grant, and Canon Tristram.

In the compilation of the above list I must especially acknowledge the assistance so readily given by Dr. Bianchi of St. Petersburg, Professor R. Collett of Christiania, and Dr. Jonas Collin of Lyngby, Denmark.



W. Brewster del.

Winters Bros. imp.

1. HERMIT THRUSH.
TURDUS PALLASII.
2. SWAINSONS THRUSH.
TURDUS SWAINSONII.

A HISTORY
OF
THE BIRDS OF EUROPE,

INCLUDING ALL THE SPECIES INHABITING THE WESTERN PALÆARCTIC REGION.

SUPPLEMENT.

TURDUS SWAINSONI.

(SWAINSON'S THRUSH.)

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- Brown Thrush*, Lath. Syn. ii. pt. 1, p. 28 (1783).
Little Thrush, Penn. Arct. Zool. iii. p. 338. no. 201 (1785).
Turdus minor, Gmel. Syst. Nat. ii. p. 809. no. 32 (1788, partim).
? *Turdus fuscus*, Gmel. tom. cit. p. 817. no. 56 (1788).
Turdus solitarius (nec Gmel.), Wils. Am. Orn. v. pl. 43. fig. 2 (1812).
Merula wilsoni, Swains. Faun. Bor.-Amer. ii. p. 182 (1831, partim).
Merula olivacea (nec Linn.), Brewer, Proc. Bost. Soc. Nat. Hist. i. p. 191 (1844).
Turdus olivaceus (Brew. nec Linn.), Giraud, B. Long Isl. p. 92 (1844).
Turdus swainsonii, Cab. in Tschudi's Fauna Peruana, ii. pp. 187, 188 (1845-46).
Turdus minimus, Lafresn. Rev. Zool. 1848, p. 5.
Turdus solitarius, Naumann, Vög. Deutschl. xiii. p. 273 (1853, partim).
Turdus (Hylocichla) swainsoni (Cab.), Gray, Hand-l. of B. i. p. 254. no. 3682 (1869).

Figureæ notabiles.

Wilson, ut suprâ ; Naumann, Vög. Deutschl. Taf. 355. fig. 4.

Ad. suprâ saturatè fusco-olivaceus vix viridi tinctus : uropygio, supracaudalibus et caudâ concoloribus : subtus albus : capitis et juguli lateribus, loris et pectore rufescenti-cervino lavatis, his saturatè fusco guttatis.

Adult Male (Hamilton, Ontario, May 19th). Differs from *Turdus pallasi* in having the upper parts dark olive-brown with a greenish tinge, the rump and tail being uniform in colour with the rest of the upper

parts, and the sides of the head and neck, the ring round the eye, the lores, and the breast are tinged with warm rufous-buff. Total length 7 inches, culmen 0·65, wing 3·9, tail 2·9, tarsus 1·1.

Adult Female (Hamilton, Ontario, May 26th). Resembles the male.

Obs. The variation in measurements is in the males—culmen 0·55 to 0·65 inch, wing 3·8 to 4·1, tail 2·7 to 3·0, tarsus 1·1 to 1·15; and in the females—culmen 0·55 to 0·65 inch, wing 3·55 to 3·85, tail 2·55 to 2·9, tarsus 1·1 to 1·15. There is some variation also in tone of colour, the eastern specimens being browner, and the western ones clearer and darker in tinge. The Californian form, found west of the Rocky Mountains (*Turdus ustulatus*), is scarcely distinguishable from true *T. swainsoni*, and differs merely in being rather more rufous in tone of colour on the upper parts.

THIS graceful little Thrush can be included only as a rare straggler to us from the American continent. It is recorded as having been once obtained in Greenland, for, according to Professor Reinhardt (J. f. O. 1854, p. 427), a specimen was shot in June 1845 at Amaraglik, in the Godthaab district, and presented to the Museum by Governor Holboell.

In Europe proper it appears to have been obtained on six occasions. One was, according to Professor Giglioli (Ibis, 1881, p. 198), captured near Genoa in the autumn of 1843, and is now in the Museum at Florence. This is the specimen figured by Durazzo. A second was purchased in the market at Namur, Belgium, and is now in the collection of Baron de Selys-Longchamps, where I examined it when on a visit to Baron de Selys some years ago. The third was captured in Heligoland in October 1869, and is now in the Gätke collection. This specimen I have also examined, and agree with Mr. Seebohm that it is rather less yellow on the throat than specimens in my collection from North America, with which it was compared, but otherwise it agrees closely with them. A fourth specimen was, according to Mr. Gätke (Vogelw. Helgolands, p. 251), obtained in Holstein many years ago, and is now in the Hamburg Museum; a fifth was, according to Giglioli (Avifauna Italica, p. 101), obtained near Rovereto, Tyrol, in 1878, and is now in the museum of that town; and a sixth is, according to Giglioli (Avif. Ital. 1889, p. 183) in the collection of Prof. Magni-Griffi, and was obtained at Sarzana, in Liguria, but Prof. Giglioli says that he has not seen this specimen.

In America the range of this Thrush extends from the Slave Lake and Fort Yukon down south to Ecuador and Brazil, and it has also been met with in Cuba and Costa Rica. Messrs. Baird, Brewer, and Ridgway say (N.-Am. Birds, i. p. 14) that they have examined specimens from “the Great Slave Lake, Mackenzie River, and Yukon to Guatemala; from the Atlantic States to East Humboldt Mountains, Nevada, and from intervening localities. The extremes of variation are the *brownish* olive of the eastern and clear *dark* greenish olive of the remote western specimens. There is no observable difference between a Guatemala skin and one from Fort Bridger, Utah.” Messrs. Berlepsch and Taczanowski, who record it from Chimbo in Western Ecuador, remark that a male obtained there in December appears to be more closely allied to *Turdus ustulatus*. Mr. Taczanowski also records it from Central Peru.

As will be seen from the above, this Thrush winters far south, but it is said to breed from latitude 44° to the high Arctic regions. Messrs. Baird, Brewer, and Ridgway state (*l. c.*) that the present species is common during the breeding-season in the neighbourhood of Calais, Maine;

but not far from that place, in New Brunswick, where I collected, I never obtained this Thrush, but only *Turdus pallasi* during the nesting-season.

This species is said to be much more arboreal in its habits than the Hermit Thrush, frequenting dense woods, and obtaining its food more among the branches of the trees than on the ground. According to Dr. Brewer, "the song of this species has a certain resemblance to that of *T. pallasi*, being yet quite distinct, and the differences easily recognized by a familiar ear. It is more prolonged; the notes are more equal, and rise with more regularity and more gradually, are richer, and each note is more complete in itself. Its song of lamentation when robbed of its young is full of indescribable pathos and beauty, haunting one, who has once heard it, long after."

Dr. Elliott Coues remarks that "as to its general habits as compared with its congeners there is little to be said, since they are scarcely distinctive. It is perhaps less decidedly terrestrial and less solicitous of concealment than the Hermit, being often observed in open woodland, and gleaning much of its food among the branches of the trees. I do not think that I have ever recognized its voice, except the short single note, which is much the same as that of its allies."

Unlike the Hermit Thrush, which places its nest on the ground in swampy places, Swainson's Thrush builds its nest in a tree, in the dense woods, and usually from four to six feet from the ground, though amongst the low vegetation of the Arctic Regions its nest was found by Mr. Kennicott within about two feet from the ground. According to Dr. Coues (B. of Colorado Valley, p. 38), "the nest is more compact and more elaborately finished than those of the ground builders the Veery and Hermit, the outer portions of which are coarser and less consistent. The material is very miscellaneous, and varies, moreover, with the locality, but mosses, lichens, leaves, bark strips, and fibrous weedy substances are usually found, while in some the *Hypnum* mosses are said to be most conspicuous, and give a distinctive character. In size the nests are 4 inches in diameter by half as much in depth, the walls being half an inch thick.

"The eggs, numbering four or five, measure about seven-eighths inch in length by five-eighths in breadth, but much variation both in length and breadth has been observed. They are light greenish-blue in colour, fully speckled with reddish-brown and other shades. Any Thrushes' eggs like this found in a nest above the ground described by early authors were almost certainly those of the Olive-backed Thrush, to whatever species they may have been accredited."

Dr. Brewer states that "the nests average about four inches in diameter and two in height, the cavity being three inches wide by about one and a half deep. They are more elaborately and neatly constructed than those of any other of our Thrushes, except perhaps of *T. ustulatus*. Conspicuous among the materials are the *Hypnum* mosses, which by their dark fibrous masses give a very distinctive character to these nests, and distinguish them from all except those of the *T. ustulatus*, which they resemble. Besides these materials are found fine sedges, leaves, stems of equisetaceous plants, red glossy fibres, the flowering stems of the *Cladonia* mosses, lichens, fine strips of bark, &c." The eggs, four or five in number, Dr. Brewer describes as having the ground-colour usually bluish green, sometimes light blue with hardly a tinge of green, and the spots yellowish brown or russet-brown, or a mixture of both colours, more or less confluent, with marked variations in this respect. In size, he remarks, they range in length from .83 to .84, with a mean of .88, their mean breadth being .66, the maximum .69, the minimum .63.

Mr. Seebohm remarks (Cat. B. Brit. Mus. v. p. 201) that, "according to the rules of the British Association, the name given by Gmelin (*Turdus fuscus*) to this species should be adopted instead of that given by Cabanis more than half a century later;" but I do not take that view, as Gmelin states that his *Turdus fuscus* is of the size of *Turdus iliacus* (*iliaci magnitudine*), which cannot possibly apply to *Turdus swainsoni*.

American ornithologists recognize three forms of Swainson's Thrush, viz.:—1. *Turdus swainsoni*, 2. *Turdus swainsoni*, var. *ustulatus*, to which I refer above, and 3. *Turdus aliciae*, which last is stated to inhabit Eastern North America to the shores of the Arctic Ocean, and along the northern coast from Labrador to Kodiak, breeding in immense numbers between the mouths of the Mackenzie and Coppermine Rivers; west to Fort Yukon and the Missouri River States; and wintering south to Costa Rica. It has also occurred in Siberia, in the north of Jakutsk, and in the Tschuktschi Peninsula, but has not been obtained in the Western Palæarctic Region.

According to Messrs. Baird, Brewer, and Ridgway (N.-Am. Birds, i. p. 11) *Turdus aliciae* differs from *Turdus swainsoni* "in its large size, longer bill, feet, and wings especially. The back is of a greener olive. The breast and sides of the head are entirely destitute of the buff tinge, or at best this is very faintly indicated on the upper part of the breast. The most characteristic features are seen on the side of the head. Here and there is no indication whatever of the light line from nostril to eye, and scarcely any of a light ring round the eye,—the whole region being greyish olive, relieved slightly by whitish shaft-streaks on the ear-coverts. The sides of the body, axillars, and tibiæ are olivaceous grey, without any of the fulvous tinge seen in *T. swainsoni*."

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the Salvin and Godman collection, and in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂, *c, d*, ♀. Beach, Hamilton, Canada, May 1890 (*R. C. M Ihvraith*). *e*, ♂. Chillanhack, B. C., May 25th, 1888 (*A. C. Brooke*). *f*. Pennsylvania (*J. Krider*). *g*, ♂. Washington, D. C., May 13th, 1891 (*C. W. Richmond*).

TURDUS PALLASI.

(HERMIT THRUSH.)

Turdus solitarius (nec Linn.), Wils. Amer. Orn. v. p. 95 (1812, partim).

Turdus minor (nec Gmel.), Bp. Journ. Phil. Acad. iv. p. 33 (1824, nec Gmel.).

Merula solitaria (Wils.), Swainson, Faun. Bor.-Amer. ii. p. 184 (1831).

Turdus guttatus (nec Pall.), Cab. in Tschudi's Fauna Peruana, ii. p. 187 (1845-46).

Turdus pallasii, Cabanis, Wiegmann's Archiv, 1847, p. 205.

Turdus (Hylocichla) pallasii (Cab.), Gray, Hand-l. of B. i. p. 254. no. 3684 (1869).

Figuræ notabiles.

Audubon, B. of Am. iii. pl. cxlvi.; id. Orn. Biogr. i. pl. lviii.; Naumann, Vög. Deutschl. xiii. Taf. 355. figs. 1, 2; Swains. Faun. Bor.-Am. ii. pl. 35.

Ad. suprà olivaceo-fuscus vix rufescente lavatus: subtùs albus, uropygio, supracaudalibus et caudâ rufescentibus: remigibus extùs rufescenti-cervino tinctis: pectore cum subcaudalibus inconspicuè cervino lavatis: juguli lateribus cum pectore saturatè fusco guttatis; hypochondriis pallidè olivaceo-fuscis.

Adult Male (Laurel, Maryland, Oct. 20th). Crown, nape, and upper parts generally olive-brown, faintly tinged with rufous; rump and upper tail-coverts rusty rufous; wings dark olive-brown, the quills washed with rufous on the outer web; tail rufous brown; underparts white, washed with pale buff; sides of the throat and breast marked with clearly defined subtriangular dark brown spots; flanks pale olivaceous brown; under tail-coverts washed with pale buff; a dull white ring round the eye, and ear-coverts marked with dull rufous-buff streaks: bill dark brown, but pale yellowish at the base; legs brown; iris hazel. Total length about 7·5 inches, culmen 0·65, wing 3·8, tail 2·9, tarsus 1·15.

Adult Female (Musquash, New Brunswick, June 4th). Resembles the male above described, but the upper parts are a shade paler, and there is the merest trace of buff on the breast.

Young. Resemble the adult, but are spotted on the upper parts with rusty yellowish.

Obs. There is a slight difference in the coloration of spring and autumn examples of this Thrush, the autumn plumage being darker and browner on the upper parts than in the spring. The variation in size of specimens I have measured is as follows:—males, culmen 0·65 to 0·7 inch, wing 3·6 to 3·85, tail 2·85 to 2·95, tarsus 1·15 to 1·2; females, culmen 0·62 to 0·7 inch, wing 3·5 to 3·75, tail 2·55 to 2·7, tarsus 1·1 to 1·15.

LIKE its congener Swainson's Thrush, the Hermit Thrush is an inhabitant of the Nearctic Region, only occurring in Europe as a rare straggler. The first record of its occurrence with us is that of Naumann (Isis, 1826, p. 520), who obtained one alive at Klein Zerbst, Anhalt, on the

22nd December, 1825. According to Degland and Gerbe (Orn. Eur. i. p. 427) one, now in the Strassburg Museum, was obtained in Switzerland: a third example is stated by Mr. Gätke (Vogelw. Helgol. p. 253), on the authority of Reymers, to have been obtained in Heligoland in October 1836; but the bird was not procured by him, and the authenticity of this occurrence depends on the accuracy of his recollection. According to Thienemann one is said to have been obtained near Vienna in 1846, but this occurrence is also very doubtful.

In America the range of this Thrush is much more restricted than that of *Turdus swainsoni*, for though it passes the summer in high Arctic localities, it does not appear to range during the winter further south than the Southern United States, not even reaching Mexico, and, according to Gundlach, it does not visit Cuba. Florida appears to be its favourite winter-quarters, and it is said to be common there during the cold season. It arrives at its summer-quarters, which are in the northern portions of New England, and from there up into the Arctic Regions, in April and leaves again in September. During the two summers I passed in New Brunswick I found this Thrush very common, and procured many specimens. I usually found it frequenting the alder-swamps and damp places near the streams and lakes where there were low bushes, occasionally near the settlements, but never in the forest amongst high trees. It arrived late in April, and commenced nidification very soon after its arrival.

Its nest was usually placed in an alder-swamp on the ground, and is constructed of old leaves, grasses, and twigs, and lined with finer grass, bents, and sedges; and its eggs, four or five in number, are uniform dark bluish green, unspotted, and measure, on an average, 0.9 by 0.7 inch.

As a rule, I did not find it shy or very difficult of approach, and it is well known to the lumbermen under the name of Swamp-Robin. Its song is clear and sweet, with a bell-like sound, though not very powerful. It was certainly the sweetest songster we had in New Brunswick, and I have often sat for long on the edge of an alder-swamp, far away from any habitation, except a lumberman's camp, listening with delight to its sweet refrain. Dr. Coues writes (B. of Color. Valley, p. 33), "Great injustice would be done were the Hermit's musical powers overlooked in any sketch, however slight, of its life-history. The earlier authors were evidently unaware of its accomplishments, for its melody is lavished on the gloom of the swamp, or lost in the darkening aisles of the forest, where years passed by before the ear of the patient and toiling student of nature was gladdened by the sweet refrain. Wilson denies its song; Audubon speaks of its 'single plaintive note,' though he adds, perhaps upon information received from his friend Dr. Pickering, that 'its song is sometimes agreeable.' Nuttall seems to have first recognized the power and sweetness of the lay of our Hermit; he compares it to the famous Nightingale, that sweet princess of song, and ranks it far above the Wood-Thrush. Later writers agree in this high estimate of the bird's powers, though it may be questioned whether a comparison unfavourable to the Wood-Thrush is a perfectly just discrimination. The weird associations of the spot where the Hermit triumphs, the mystery inseparable from the voice of an unseen musician, conspire to heighten the effect of the sweet, silvery, bell-like notes, which, beginning soft, low, and tinkling, rise higher and higher, to end abruptly with a clear ringing intonation. It is the reverse of the lay of the Wood-Thrush, which swells at once into powerful and sustained effort, then gradually dies away, as though the bird were receding from us; for the song of the Hermit first steals upon us from afar, then seems to draw nearer, as if

the timid recluse were weary of solitude, and craved recognition of its conscious power to please. Yet it is but a momentary indecision; true to a vow of seclusion, the anchorite is gone again to its inviolate grotto in the fastnesses of the swamp, where a world of melody is wasted in its pathetic song of life."

American authors recognize three forms or subspecies of the Hermit Thrush, viz.:—
 1. *Turdus pallasii*, which inhabits Eastern North America; 2. *Turdus pallasii*, var. *nanus*, which inhabits the western province of North America, eastward from Kodiak to Cape St. Lucas and Arizona, and which differs from *T. pallasii* in being smaller, in having a more slender and depressed bill, in having the tail darker, richer, and more purplish rufous, and the pectoral spots sparser and less pure black in tinge; 3. *Turdus pallasii*, var. *auduboni*, which inhabits the Rocky Mountains from Fort Bridger south into Mexico, and differs from *Turdus pallasii* in being rather larger, the upper parts with more of a greenish than a brownish tinge, and the tail lighter and inclining to dull ochraceous rather than rufous.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the large series in the Salvin and Godman collection and in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Inglewood Manor, Musquash, N. B., May 4th, 1863 (*A. R. Dresser*). *b*, ♀. Inglewood Manor, June 4th, 1862 (*H. E. Dresser*). *c*, ♂, *d*. East Hamilton, Canada, April 1888 (*J. W. Stainton*). *e*, ♂. Calais, Maine, 1864 (*G. A. Boardman*). *f*, ♂. October 20th, 1888. *g*, ♀. May 3rd, 1889, Laurel, Maryland (*C. W. Richmond*).



J. G. Zandomeni del et lith.

Mintern Bros. imp.

ALPINE RING-OUSEL.
TURDUS ALPESTRIS.

TURDUS ALPESTRIS.

(ALPINE RING-OUSEL.)

Merula alpestris, C. L. Brehm, Isis, 1828, p. 1281 (nom. nud.).

Merula alpestris, id. Handb. Vög. Deutschl. p. 377 (desc. princeps) (1831).

Merula vociferans, L. Brehm, Naumannia, 1855, p. 281 (nom. nud.).

Merula maculata, id. ut suprà (nom. nud.).

Merula insignis, L. Brehm, J. f. O. 1856, p. 446 (nom. nud.).

Turdus alpestris (Brehm), Stejneger, Proc. U.S. Nat. Mus. 1886, pp. 365–373.

Merula torquata, var. *alpestris*, Tschusi zu Schmidh. Schwalbe, xii. p. 70 (1888).

Merula torquata alpestris, Seebohm, Ibis, 1888, p. 310.

Turdus torquatus alpestris, Prazák, Schwalbe, xvii. p. 68 (1893).

Figuræ notabiles.

Naumann, Vög. Deutschl. Taf. 361. fig. 3 (juv.); Dresser, B. of Eur. pl. 15 (♂ ♀).

♂ *ad. æst.* corpore suprà fusco-nigro, plumis pallidiore angustè marginatis, remigibus in pogonio externo et tectricibus alarum majoribus conspicuè albido marginatis: torque pectorali albo: corpore reliquo subtùs fusco-nigro, plumis conspicuè albo marginatis et centraliter albo notatis: rostro aurantiaco, ad basin fusco: pedibus fusco-corneis: iride fuscâ.

♀ *ad. æst.* magis fusco colorata, gulæ plumis magis albido marginatis et torque pectorali sordidè albo, plumis pallidè fusco angustè marginatis: rostro flavo, culmine et mandibulâ versùs apicem corneis.

♂ *ad. hiem.* similis ptilosi æstivæ, sed obscurior, plumis in corpore suprà magis fusco marginatis: torque pectorali vix fusco lavato.

♀ *ad. hiem.* similis ptilosi æstivæ, sed magis fusco colorata, dorsi plumis magis conspicuè marginatis.

Adult Male in breeding plumage (Hatszég, Hungary, May 3rd). Upper parts generally brownish black, the feathers narrowly margined with lighter brown; quills externally margined with greyish white, the wing-coverts similarly but more broadly margined; chin and throat-feathers blackish, narrowly margined with white; pectoral gorget white; rest of the underparts blackish, the feathers broadly margined with white and having a large white median patch; under wing-coverts and axillaries nearly pure white: bill orange-yellow, brown at the base and tip of the upper mandible; feet horn-brown; iris dark brown. Total length about 10 inches, culmen 1·0, wing 5·4, tail 4·1, tarsus 1·3.

Adult Female in breeding plumage (Hatszég, Hungary, April). Differs from the male in the general tone of colour of the plumage, the upper parts being dark hair-brown and not brownish black, and the underparts dark brown; the feathers on the throat are rather more broadly margined with white, and the gorget dull white, most of the feathers with pale brown margins: bill yellow, the base of the upper and the tips of both mandibles horn-brown.

Adult Male in winter (Belgrade, Turkey, September 26th). Differs from the male in summer dress merely in having the feathers on the upper parts rather more broadly margined with brown; the gorget is dull white, and the bill is horn-brown, with the base of the lower mandible dull yellow.

Adult Female in winter. Differs from the summer dress merely in being rather browner in tone of colour, and the feathers on the upper parts have the margins rather broader.

Young Female in winter (Silesia). Upper parts warm brown, the feathers margined with dull yellowish olive; quills and larger wing-coverts broadly margined with white tinged with buff; underparts warm brown, the feathers very broadly margined with buffy white, these margins being nearly pure white on the middle of the abdomen, and tinged with buffy brown on the throat and flanks; pectoral gorget scarcely indicated; nearly all the feathers below the gorget with the median white patch as well as the margins: legs brown, the fore part of the tarsus yellowish; bill dark horn-brown.

In summer plumage the northern and southern forms are easily separable, as *Turdus torquatus* has the feathers almost or entirely devoid of white margins, whereas *T. alpestris* has broad margins to the feathers on the underparts below the white collar, and besides many of the feathers have white centres. In autumn and winter dress both forms have white margins to the feathers on the underparts, but whereas these margins are narrow in *T. torquatus*, and there are no median white patches on the feathers, in *T. alpestris* the margins are much broader, and some, if not most, of the feathers on the underparts, and more especially the under tail-coverts, have conspicuous white median patches.

The difference between summer and winter plumage is much greater in *T. torquatus* than it is in *T. alpestris*; indeed, in the latter species the white margins to the feathers on the underparts are quite as broad in the summer dress, if not broader than they are in the winter plumage. Dr. Stejneger surmises that the young birds of the two forms differ already in nestling plumage; but this I have not been able to decide, as, in spite of every endeavour, I have not succeeded in obtaining the young of *T. alpestris* in nestling plumage.

THE present species is a southern and alpine form of our northern Ring-Ousel, inhabiting the mountain-ranges of Southern and Central Europe and Asia Minor during the summer season, and migrating to the lowlands or to countries further south in the winter, though in some localities they are said to remain throughout the year. It is said to occur in the French and Spanish Pyrenees, but I have not had an opportunity of examining a specimen from either of these countries. It is, however, certainly the species which inhabits the mountains of Switzerland.

Mr. Howard Saunders writes (Ibis, 1891, p. 162) that "it was fairly plentiful in the Jura, where some nests were still being built on May 23rd, when a few already contained young birds, and I saw a brood on the wing by June 2nd. The nest is placed on the branch of a spruce—generally one which is thickly hung with moss and lichen—and near the stem; seldom as low down as 15 feet, while often 40 feet or more from the ground—very different from the lowly positions affected by this species in the British Islands. The adult male attracts attention by sitting on the top of a tall fir and uttering vigorously his scolding *tett, tett, tett*. The bill in this mountain race is decidedly yellower than in average British examples, but much paler than the orange colour of the Blackbird. In autumn the Ring-Ousel may be seen on the rowan-trees, and among the vineyards by the lakes, until the end of October."

Mr. Scott B. Wilson also states (*Ibis*, 1887, p. 133) that he "found several nests of this bird in the Jura (3070 feet) in May, some with eggs, and several with young killed by the snow. On the Engstlen Alp, up to the limit of tree-growth (6100 feet) we obtained some fine specimens in June, and we subsequently shot a young bird on the Gemmi on July 5th. The Ring-Ousel passes the summer in the high forests, and comes out towards evening from the forests to search for worms among the Alpine pastures. It arrives at the end of March and departs late in September."

According to Count Salvadori (*Boll. Mus. Zool. Torino*, May 1893) it "is found in Italy on the mountains during the breeding-season, and partly migrates in autumn, at which season it is found on the plains together with *Merula torquata*, which arrives then from the north. It is probable that to this species must be referred the specimens which during migration occur even in Sicily, and especially on the island of Ustica (*Doderlein*). It appears that *Merula alpestris* breeds throughout the chain of the Alps. In Piedmont it nests most certainly in the Orsera Valley above Viù, whence came some young birds which I saw in Viù in August 1877; also, as I said before, I met with young birds in August at Monbarone, above the Serra d'Ivrea. Early in September I have seen them in the Valley of Graine (Valle di Challand o d'Ayas), and in the Valle della Cinischia near Mont Cenis, and no doubt to this species must be referred the birds which Abre (*fide* Giglioli) says breed in the mountains of the province of Cuneo, and which Bazzetta, Guarinoni, Bernascone and Galli Valerio say nest at Ossola, the Valsesia, and the Valtellina, as also those which according to Bettoni breed in various localities in the Alps of Lombardy, and which are resident and breed in the Alps of the Tyrol, Venetia, and Friuli (*Bonomi, Ninni, Pellegrini, Molari, Fissi, Delaito, Vallon*). Moreover, the Alpine Ring-Ousel is resident and breeds also in the Apennines, at least in Tuscany. Savi says that some pairs remain to breed, and makes mention of one which he found in Mugello in August 1822, at which place Mr. Roster obtained a pair in June 1879 (*Giglioli*), and Fiorini states that it is resident on the mountains of Casentino (*Giglioli*). It appears that it also breeds on the mountains of Modena, as was stated to Doderlein, and it is not improbable that such is the case. In conclusion we have the Alpine Ring-Ousel in Italy breeding on the mountains and partially migratory, and we have the northern *M. torquata*, not breeding here, but wintering, arriving in the autumn and remaining till the end of March."

Mr. Whitehead saw a Ring-Ousel in Corsica on the 12th March, which in all probability was the present species.

In Silesia, Galicia, and in the mountains of Southern Germany, the Alpine Ring-Ousel is fairly common, and it is doubtless this form which Seidensacher found breeding in the Bacher Mountains in Styria. Count C. Wodzicki records it as common in the Carpathians and in Transylvania. Messrs. Danford and Harvie-Brown write (*Ibis*, 1875, p. 304) that they found it "common everywhere, and to some extent migratory. Herr Buda Ádám says that it nests among the pines, and he has never found them breeding in the low country. We saw them in the oak-woods at Sztána, near Klausenburg, on the 10th June." In a letter written from Hatszeg, Hungary, just received, Mr. Danford writes:—"I have just come down from the mountains and the Ring-Ousels are still (16th October) there feeding among the juniper-bushes above the pine-woods. They come to the low country in the early spring and soon

go up the hills, where they take up their quarters among the pines at an elevation of 3000 to 5000 feet. Where they go in winter I do not know, but I never see them at that season either high up or low down. They are very numerous, being quite the characteristic bird of our woods."

I have examined several Ring-Ousels from Turkey, all of which belonged to the present species, and it is doubtless the species which has occurred in Greece.

Mr. Danford met with the Alpine Ring-Ousel also in the Taurus Mountains in Asia Minor, and states (Ibis, 1878, p. 13) that "flocks of Ring-Ousels were found at Zebil during the hard weather of the early part of February. At the end of April a pair was met with on the Karanfil-dagh, among a débris of loose rocks and gnarled old junipers. The elevation was about 6500 feet. From their cries of alarm and general manner of conducting themselves it was evident that they had a nest close by, though it could not be found."

I do not find that the Alpine Ring-Ousel ranges further east than Asia Minor, for, as stated below, the Caucasian Ring-Ousel is not referable to this species. Nor can I say whether it visits North Africa in the winter season, which it probably does, but I may mention that those I have seen from Morocco were true *Turdus torquatus*.

In general habits, as may be surmised, the northern and southern forms of the Ring-Ousel do not differ to any great extent, but they appear to do so in their mode of nidification, as also in their song. Dr. Brehm remarks that the song of the Alpine Ring-Ousel is much louder and more powerful than that of its northern congener, and this is confirmed by later observers. Mr. Danford informs me that in Hungary it is the first bird whose note is heard in the morning after the Capercaillie, as it commences singing about half-past three o'clock, and finishes in the evening some time after sunset. The song is pleasant and has many variations.

Whereas the northern Ring-Ousel builds its nest on the ground or exceptionally in a low bush close to the ground, the present species invariably places its nest in a tree, usually at a considerable altitude. Messrs. Howard Saunders and Scott Wilson found its nest in trees in the Jura Mountains, and Mr. Danford writes me that in Hungary the nest is built in spruce-firs at from 15 to 40 feet above the ground, and is generally placed close to the main stem. He has sent me eggs which he took on the 25th April last, and remarks that he took others rather earlier, and that young birds in and out of the nest were abundant in May. I may here remark that, according to Dr. Radde, the Ring-Ousel of the Caucasus does not nest in trees, but on the ground under the rhododendron bushes, therein agreeing with the northern Ring-Ousel. He also found one nest in the cleft of a rock.

I am indebted to Mr. Danford for a nest and five eggs of this Ring-Ousel, taken by him at Hatszeg on the 25th of April, 1894. The nest resembles that of the Blackbird, and is externally constructed of stout bents, moss, and a few fine larch-twigs, and lined with fine grass and rootlets. The eggs, five in number, are pale greenish blue, somewhat sparsely spotted and blotched with reddish brown. Compared with my series of eggs of *Turdus torquatus*, they are rather more blue in tone of ground-colour, and the markings are fewer and less bold, and indeed they more closely resemble some eggs of *T. merula* than the general run of those of *T. torquatus*.

When in 1872 (Birds of Eur. ii. p. 114) we remarked on a stage of plumage in the Ring-Ousel which, so far as we could ascertain, was not mentioned by any of the leading authorities on European ornithology, we failed to connect this bird with Dr. C. L. Brehm's *Merula alpestris*, which was then considered to be merely a synonym of *Turdus torquatus*. To Dr. Stejneger belongs the credit of having solved this question, and of having clearly demonstrated that Brehm's *Merula alpestris* is a good species, and that the northern and South European forms of Ring-Ousel should be considered as specifically separable. In his article on *Turdus alpestris* and *Turdus torquatus* (Proc. U.S. Nat. Museum, 1886, p. 365) he says, referring to the above-cited description of the young female in the 'Birds of Europe':—"This curious livery is not mentioned in any of the usual standard works on European ornithology. It is not described by Temminck, Nilsson, Naumann, Degland, Yarrell and Newton, Macgillivray, &c. Neither have authors writing later than the publication of Dresser's grand work given it even a passing notice. Mr. H. Seebohm, who in 1881 monographed the Thrushes (Cat. B. Brit. Mus. v.), and who in 1883 treated of the Ring-Thrush in his 'History of British Birds,' has also passed by it in absolute silence. Nevertheless, as I shall show later on, the 'livery' in question has been mentioned repeatedly in the literature, not as a special plumage of the Ring-Thrush, but as a separate species. If some of the authors quoted above had consulted the references cited by themselves in their synonymies, they would have found it described by C. L. Brehm as *Merula alpestris*." Dr. Stejneger then proceeds to prove his assertion, and I can only add that after a careful examination of a large series of specimens I most fully concur in his view that *Turdus torquatus* from Northern Europe, and *Turdus alpestris* from Southern Europe, should be treated as specifically separable forms. The name *Merula alpestris* was first used by Brehm in 1828 (Isis, p. 1281), without any description, but in 1831 ('Handbuch der Naturgeschichte aller Vögel Deutschlands,' p. 377) he gives a detailed description, of which the following is a translation:—"It is smaller than all the preceding species, and the male resembles them, but the female is differently marked. The upper parts of the female are as in her allies, and the underparts also down to below the light-coloured collar, but the breast and abdomen have a varied appearance. Each feather has, namely, besides the light border, a large white median spot interrupted by a blackish shaft-stripe, which forces the black towards the white border:" and he adds that it "inhabits the Alps of the Tyrol on the border of tree-growth below the eternal snow, and visits Central Germany rarely in October."

The next reference to *Turdus alpestris* is in 1848, when Brehm (Isis, 1848, pp. 91-93) published some observations by Count von Gourcy Droitaumont on the song of several German birds, together with remarks by himself, in which he gives a parallel comparison of the male in spring of *T. torquatus* and *T. alpestris*, which I need not translate *in extenso*, but merely mention that he clearly points out the main distinguishing character, viz. that *T. alpestris* has white margins to all, and central white spots on most of the feathers below the white collar, which are most prominent in summer, and which are never seen in *T. torquatus*; and he further adds that *T. torquatus* has the song described by Bechstein, and not at all the loud whistle of *T. alpestris*, which has the loud penetrating song described by Count von Gourcy Droitaumont.

In 1856 (J. f. O. 1856, p. 376) Brehm again refers to *Turdus alpestris*, and (*tom. cit.* p. 446)

subdivides the southern Ring-Ousel into four species—*Turdus alpestris*, *maculata*, *insignis*, and *vociferans*—but does not give any specific characters for these subspecies, merely remarking generally on the broad margins to the feathers on the underparts which are never absent, and the white median patches, which are, he states, especially conspicuous in *T. maculatus*.

The last reference to *Turdus alpestris* by Brehm I find is in 1860 (J. f. Orn. p. 239), where he states that the Ring-Ousel of Switzerland resembles that from Carinthia, and differs from the northern form, 1stly, by the much lighter coloration of the wings; 2ndly, by the broader light margins to the feathers on the underparts; and 3rdly, by the white spots (speculum) on the centre of the feathers of the breast and abdomen; and he further adds that “besides this it has so loud a voice that the song is intolerable in a room, whereas that of the northern ones is soft and pleasant.”

In 1888 Mr. Seebohm, in an article on *Merula torquata* and its geographical races (Ibis, 1888, pp. 309–312), fully accepted Dr. Stejneger’s views respecting the present species, and states that “intermediate forms occur both in Norway and Sweden. An example from the former locality in the British Museum, and one from the latter locality in Dresser’s collection, have white centres to many of the flank-feathers.” On this I may remark that the latter specimen was received through a dealer, and the locality may or may not be correct, but I should certainly refer it to *Turdus alpestris* and not to *T. torquatus*. I have examined three examples in the British Museum from Norway, all of which I should without hesitation refer to true *T. torquatus*, and none of them are intermediate between the two forms.

Mr. Seebohm further proposes to separate, under the name of *Merula torquata orientalis*, the form from the Caucasus and Persia, and states that “in examples from the Caucasus and Persia the white on the axillaries and on the wing-coverts is still more pronounced, whilst on the underparts that on the margins of the feathers is less pronounced, and that in the centre altogether absent.” I have examined three specimens in the British Museum from the Caucasus and one in my own collection from Erzerum, all of which agree closely with *Turdus torquatus*, but have the margins to the feathers on the wing somewhat broader and whiter. In this respect examples from Northern Europe differ considerably *inter se*, and it appears to me, therefore, that this character is not of sufficient value to entitle them to specific distinction. None of the Caucasian examples have, I may add, the broad margins and median white patch on the feathers of the abdomen and under tail-coverts so characteristic of *T. alpestris*, but have the underparts exactly as in true *T. torquatus*.

In 1893 Count Salvadori (Boll. Mus. Zool. Torino, viii. May 1893) carefully follows Dr. Stejneger over the ground he previously traversed, and concurs in the opinion that *Turdus alpestris* is a fairly separable form, and brings the information up to date, especially as regards its range in Italy.

I may here remark that Dr. Stejneger is quite correct in his surmise that the young female in winter plumage described in the ‘Birds of Europe,’ and figured on Plate 15, was obtained in Silesia (Schlesien), and not Schleswig; but I may add that both specimens figured on that plate are referable to *Turdus alpestris*, as I have convinced myself by a careful examination of the specimens, which are still in my collection; and, indeed, I have always made a point of carefully preserving and marking the specimens I have figured or described, so that they may at

any time be available for examination. The second specimen figured on that plate is a male from Belgrade, and clearly shows the white central patch on the feathers of the abdomen and under tail-coverts which are characteristic of *Turdus alpestris*. I must here state that Count Salvadori referred both figures on the plate in question to *T. alpestris*, and I am glad to be able to confirm his statement.

The specimens figured are an adult male and female in breeding plumage, for which I am indebted to Mr. C. G. Danford, of Hatszeg, Hungary, and which are the birds I have described above. The adult male and young female above described are those figured on Plate 15 of the 'Birds of Europe.'

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a. France? (*Fairmaire*). *b, c, d*, ♂. Upper Italy (*Schlüter*). *e*, ♂. Silesia, summer (*Dr. Kütter*). *f*, ♀ *juv.* Silesia, winter (*Schlüter*). *g*, ♂. Galicia, May 1869 (*Schlüter*). *h*, ♂. Bukowina, May 14th, 1893 (*Schlüter*). *i*, ♂. Hatszeg, Hungary, May 3rd, 1894. *k*, ♀. Hatszeg, April 1893 (*C. G. Danford*). *l*, ♂. Belgrade, Turkey, September 26th, 1869 (*Robson*). *m*, ♂. Antitaurus, Asia Minor, March 9th, 1879. *n*, ♂. Kaisariah, Asia Minor, March 25th, 1879 (*C. G. Danford*). *o*. Sweden? (*Schlüter*).

E Mus. Brit.

a, ♂. Arva, Hungary, July 1891. *b*, ♀. Fogara, Hungary, April 24th, 1890. *c*, ♂. Zuberacz, Hungary, August 1891. *d*, ♂. June 8th; *e*, ♀. April 10th; *f*, ♀. April 23rd, Hatszeg, Hungary (*C. G. Danford*). *g*. Turkey (*Gould*). *h*, ♀. Turkey, August 8th, 1877 (*Pearce*). *i, k*. Near Turin (*Count Salvadori*). *l*. France, 1848 (*W. Lemaire*).

E Mus. H. Seebohm.

a, ♂ *juv.* Borgo S. Sepolcro, Tuscany, October 24th, 1885. *b*, ♀. Florence, January 1857 (*Prof. Giglioli*). *c*, ♂, *d*, ♀. Siebenbürgen (*Dr. Rey*). *e*, ♂. Constantinople (*Robson*). *f, g*, ♂. Zebil Taurus, Asia Minor, February 4th, 1876 (*C. G. Danford*).

CINCLUS CASHMIRIENSIS.

(WHITE-BREASTED ASIATIC DIPPER.)

? *Cinclus aquaticus*, var. *albiventris*, Hempr. & Ehr. Symb. Phys., Aves, fol. bb (1828).

Cinclus aquaticus, Ménétriés, Cat. rais. p. 29 (1832, nec Bechst.).

Hydrobata cinclus, Adams, P. Z. S. 1858, p. 489.

Cinclus cashmeriensis, Gould, P. Z. S. 1859, p. 494.

Hydrobata cashmeriensis (Gould), Jerdon, B. of Ind. i. p. 507 (1862).

Cinclus aquaticus, var. *cashmeriensis*, Blanford, E. Persia, ii. p. 212 (1876).

Cinclus kashmiriensis (Gould), Oates, Faun. Brit. India, Birds, ii. p. 162 (1890).

Figura nulla.

C. melanogastri similis, sed pallidior : capite, nuchâ et collo postico usque ad regionem interscapularem fuscis : abdomine sordidiore et magis fusco : hypochondriis nec schistaceo-griseis.

Adult Male (Schamchor, Transcaspia). Resembles *Cinclus melanogaster*, but the upper parts are paler, the brown extends down well on to the interscapular region, the dark portion of the underparts is duller and browner in tinge, and the flanks lack the clear slate-grey coloration. Total length about 6·7 inches, culmen 0·8, wing 3·62, tail 1·9, tarsus 1·1.

Adult Female. Resembles the male.

THE present species I cannot but consider as a local form of *Cinclus melanogaster*, differing chiefly in having the brown on the upper parts extending much further down the back, and having the upper parts generally much paler in tinge of colour.

It inhabits Asia Minor, the Caucasus, Persia, Afghanistan, and Kashmir, ranging eastward as far as Chinese Mongolia. When in 1873 I wrote the article on *Cinclus albicollis* in the 'Birds of Europe' I had not had an opportunity of examining specimens from Asia Minor, which I have since done, and have found them to be referable to the present form, and not to *C. albicollis*, and to be identical with examples from the Caucasus and Persia.

The present form of Dipper is, according to Mr. C. G. Danford (*Ibis*, 1878, p. 12), common on the upper waters of the Cydnus, near Zebil, in Asia Minor. He met with one nest there hardly completed, which was placed in an exposed situation on the face of a large boulder, and was as much domed as any nest of *C. aquaticus*. In the Caucasus, Lorenz states (*Orn. Faun. Cauc.* p. 34), "I found this Dipper breeding high up in the mountains in the Eschkakon ravine. It is not uncommon in the ravines near Kislovodsk, but becomes more numerous in the autumn and winter, and it is not rare on the Podkumok in the winter. I met with it in the Kuban steppe in November at the stanitzas Labinskaja and Sassovskaja on the Laba, but it was not common."

According to Dr. Radde it passes the summer at considerable altitudes in the mountains up to 7000 feet, descending in winter to the lower and warmer districts. In the summer it frequents the clear rocky mountain-streams, sometimes in the wooded districts, sometimes in the bare treeless districts; during the winter it inhabits the larger brooks, and remains about the lower portions of the mountains, and at that season it is even found near Tiflis. In the Transcaspian district Dr. Radde observed Dippers, which probably belonged to this species, on the Attrek on the route to North Khorassan, close to the small town of Kotschan. It is found in Persia; and Mr. W. T. Blanford states (E. Pers. ii. p. 213) that "Dippers abound in the Elburz Mountains upon all the streams. On the southern side of the range they are not found, so far as I am aware, far outside the base of the range, at about 5000 to 6000 feet, but they descend much lower towards the Caspian, and may probably be found as far down as the streams are sufficiently rapid to afford a suitable habitat. I regret that I have no skins from the low country in Ghilán or Mazandarán for comparison with those from the mountains. Dippers were noticed by De Filippi in the same localities as by myself, and by Ménériés on the Tálísh Mountains. In Southern Persia I did not myself meet with any species of *Cinclus*; but one was seen by Major St. John at Dashtiájan, near Shiráz. As he was unable to procure a specimen the species remains undetermined, but it may very possibly prove identical with the Elburz form."

I have examined specimens from Persia, Cashmere, and Sikkim, and, according to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 163), its range extends in the Himalayas from Gilgit to Sikkim from 9000 to 14,000 feet altitude, or even higher according to season. Dr. Stoliczka states (2nd Yarkand Miss. p. 96) that he observed this species at Zingral at an altitude of about 15,500 feet, on the road to the Chang-là. Col. Biddulph also obtained specimens in streams under and on both sides of the same pass. Dr. Henderson writes:—"Several specimens of this White-breasted Dipper were procured and numbers seen, not in Kashmir, but in Eastern Ladák, in the stream which runs from Chagra into the Pangong Lake. It appears to be a permanent resident here, as it was noticed and shot in this locality both on going and coming. A nestling obtained on the 14th of July could not long have left the nest, and old birds were seen on this stream on the 8th of October, at an elevation of 15,000 feet, where, except quite at its centre, it was a mass of solid ice." Dr. Lansdell met with this species at Tischkim on the 1st November, 1888.

To the eastward the present species has been recorded from various localities as far as China. The brothers Grum-Grzimalo obtained it at Pjan-do-go in the Njan-schan; and I have examined specimens collected by Col. Prjevalsky at Kan-su, which are referable to the present species, and this explorer states that he met with it in Ganssu and Northern Thibet; and on his third journey he found it in January 1880 in the central part of the Naidshin-gol on the range dividing North Thibet and Zaidam, where a few were wintering. It is common in the upper part of the Chuanche and in Ganssu. In 1884 Prjevalsky observed it again in Ganssu in the mountains bordering Alaschan, and in the northern and southern Sette range. It was numerous at the village of Bamba, and in the southern part of the Kuku-Nor mountain-range. A few were found breeding on the northern slope of the Burchan-Budda mountain-range, as also in the mountains of the Dytschu (Blue River). Respecting its habits, &c., he writes as follows:—"On the shores of the clear mountain-brooks of Kan-su it is found from the lowest plains up to the alpine

regions, *i. e.* to an absolute height of over 11,000 feet. In their habits the Kan-su birds do not differ from their European congeners. Each pair has its own district, and does not allow any other bird of this species to entrench on it, but lives very peacefully with its neighbours, especially so with *Chæmarrhornis leucocephala*. The whole day it is busily engaged in diving in search of food, flying from stone to stone, or singing its simple but not unpleasant song, which (like our European bird) it does not omit to utter in winter; and in December and February we obtained specimens in the Burchan-Budda Mountains of Northern Thibet. In Kan-su they are most probably resident, keeping to the ice-free mountain-brooks in the winter. In spring, about the 9th of May, all the females were sitting, and the males were only seen singly. The young, which are easily distinguished from the old birds by their white underparts, leave the nest at the end of July or beginning of August; at least from that time onwards we often met with them. Its range does not extend further north than Kan-su." The Abbé Armand David states (Ois. de la Chine, p. 147) that he obtained specimens in Sechuen in spring, summer, and autumn, which, from his description, were evidently true *C. cashmiriensis*.

How far to the north the present form extends in Asia I cannot with the present available material decide. As above stated, Przevalsky did not meet with it further north than Kan-su; and I cannot agree with Dr. Sharpe (Cat. B. Brit. Mus. vi. p. 313) that the form found in the Baikal district in Eastern Siberia should be referred to the present species, as it differs much more from true *Cinclus cashmiriensis* than that species does from *Cinclus melanogaster*.

As I remarked in an article on the White-breasted Dippers (Ibis, 1892, pp. 380-387), the Palæarctic White-breasted Dippers are all so closely allied that they cannot be otherwise treated than as modified forms or subspecies which have diverged from one parent stock, the divergences having in all probability been caused by isolation, which is the more probable because the Dipper is essentially a non-migratory species, which does not, as a rule, wander far from its usual range, and then only when driven out by stress of weather. I need not here again discuss the question *in extenso*, and will only give a list of the various forms which I have been able to recognize, and which I consider to be forms differentiated by isolation from the one parent stock, which appears to me to be in all probability *Cinclus melanogaster*, or it may possibly be *Cinclus cashmiriensis*.

Cinclus melanogaster, Brehm, which I take to be the parent stock, has the upper parts very dark brown, the back squamated up to the hind neck, the underparts below the white breast deep warm blackish brown, and the flanks dark slate-grey. Culmen 0·9 to 0·93 inch, wing 3·45 to 3·7, tail 2·3 to 2·35, tarsus 1·25 to 1·3.—*Hab.* Scandinavia and Northern Europe eastward to the Ural, occasionally straggling to Great Britain, Holland, Belgium, and North Germany.

Subsp. *a. Cinclus aquaticus*, Bechst., differs from *C. melanogaster* in having the upper parts rather paler, the flanks much less grey, and the underparts, immediately bordering the white, bright rufous. Culmen 0·82 to 0·9 inch, wing 3·25 to 3·6, tail 2·1 to 2·45, tarsus 1·05 to 1·25.—*Hab.* Great Britain, France, Belgium, Holland, and Germany.

b. Cinclus pyrenaicus, Dresser, resembles *C. melanogaster*, but is paler, especially on the head and neck, the underparts paler and browner, and the wing shorter. Culmen 0·85 to 0·95 inch, wing 3·1 to 3·4, tail 2·1 to 2·3, tarsus 1·05 to 1·15.—*Hab.* Pyrenees.

- c. *Cinclus minor*, Tristr., resembles *C. pyrenaicus*, but is rather more rufous on the underparts, and has a narrow dull rufous band bordering the white. Culmen 0·85 inch, wing 3·2, tail 2·0, tarsus 1·15.—*Hab.* Atlas Mountains.
- d. *Cinclus albicollis* (Vieill.) resembles *C. aquaticus*, but has the upper parts paler, and the breast much brighter rufous, this colour extending on to the abdomen. Culmen 0·85 to 0·9 inch, wing 3·2 to 3·45, tail 2·0 to 2·4, tarsus 1·15 to 1·27.—*Hab.* Switzerland, Savoy, and Southern Europe as far east as Greece and Turkey.
- e. *Cinclus rufiventris*, Hempr. & Ehr., resembles *C. albicollis*, but has the abdomen rufous brown, and the brown on the upper parts extends down to the interscapular region without squamations as in *C. cashmiriensis*. Culmen 0·87 inch, wing 3·15, tail 2·1, tarsus 1·15.—*Hab.* Palestine.
- f. *Cinclus cashmiriensis*, Gould. Upper parts as in *C. melanogaster*, but rather paler, the brown extending over the interscapular region, the squamations or semilunar markings commencing only below that part; underparts rather paler than in *C. melanogaster*, and the flanks less grey. Culmen 0·8 to 0·9 inch, wing 3·25 to 3·9, tail 1·8 to 2·5, tarsus 1·0 to 1·25.—*Hab.* as above.
- g. *Cinclus baicalensis*, Dresser, differs from *C. cashmiriensis* in having the upper parts of a peculiar velvety mouse-brown colour, the head and neck paler than the back, the entire upper parts down to the rump mouse-brown, unsquamated, the lower rump and upper tail-coverts only being squamated or marked with semilunar bars, and the dark portions of the underparts dull dark earth-brown. Culmen 0·8 to 0·9 inch, wing 3·2 to 3·6, tail 2·0 to 2·1, tarsus 1·1 to 1·15.—*Hab.* Siberia, in the Baikal district.
- h. *Cinclus leucogaster*, Bp., differs from *Cinclus baicalensis* in having the head and neck paler, and the underparts down to the vent white, excepting the flanks, which are brown. Culmen 0·8 to 0·9 inch, wing 3·25 to 3·85, tail 2·0 to 2·4, tarsus 1·1 to 1·25.—*Hab.* Altai range, Turkestan, Mongolia, and the countries north of Kashmir, ranging into the Baikal district.

Since I wrote the above-cited article I have received specimens of the Dipper which the Russian ornithologists call *Cinclus sordidus*, and have had an opportunity of comparing them with Gould's type, from which I find they differ considerably, and cannot possibly be referred to that species. These specimens, obtained near Irkutsk, and at Tunka, in the Baikal district, differ from *C. baicalensis* only in having the white throat and breast obscured with brown, whereas true *C. sordidus* has the head and neck deep chocolate-brown, the rest of the upper parts dull dark blackish brown with a slaty tinge, the throat and breast dull rufous buff, and the rest of the underparts dull dark umber-brown. I consider this Dipper to be a form of *C. melanogaster*, and may be included as (*i*), *Cinclus saturatus*.

In general habits and mode of nidification there appears to be no difference between *Cinclus cashmiriensis* and *Cinclus aquaticus*, and its nest and eggs are also stated to be indistinguishable from those of our western bird.

As the differences between the present species and *Cinclus melanogaster* are easily perceived, I have not deemed it necessary to give an illustration of *C. cashmiriensis*.

The specimens described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

- a, ♂ ad., b, ♀ ad. Zebil Taurus, Asia Minor, January 10th and 21st, 1876 (*C. G. Danford*). c, ♂. Osmanzeeh, Asia Minor, January 20th, 1879 (*C. G. Danford*). d, ♂, e, ♀ juv. Kuban Caucasus,

December 11th and 27th, 1891 (*Tschusi zu Schmidhofen*). *f*, ♂ *ad.* Schamchor, Transcaspia, November 5th, 1879 (*Dr. G. Radde*).

E Mus. Brit.

a, ♂, *b*, ♀. Zebil Taurus, January 20th, 1876 (*C. G. Danford*). *c*. Erzeroom, May 1866 (*Robson*). *d*. Elburz Mountains (*St. John*). *e*, ♂. Karij Valley, August 10th, 1872 (*Blanford*). *f*. Persia (*Darwin*). *g*. Kashmir (*Adams*), type. *h*, ♂. Chagra, July 14th, 1870; *i*, ♀. Chagra, October 8th, 1870 (*Dr. Henderson*). *k*. Kislovodsk, February 25th, 1886; *l*. Leh, June 30th, 1873; *m*, ♂. Ladakh, September 14th, 1873 (*Biddulph*). *n*, *o*, *p*. Sikhim, February; *q*. Sikhim, May; *r*, *s*, *t*. Sikhim, October; *u*. Sikhim, November; *v*. Darjeeling; *w*, *x*. Chola Pass, September 1872 (*Mandelli*). *y*. Yangtze, September 16th, 1873 (*Stoliczka*).

E Mus. H. B. Tristram.

a, ♂. Chagra (*Henderson*). *b*. Kan-su (*Prjevalsky*).



J G Yedemans lth

Har. hart imp

SEEBOHMS WHEATEAR.
SAXICOLA SEEBOHMI.

SAXICOLA SEEBOHMI.

(SEEBOHM'S WHEATEAR.)

Saxicola seebohmi, Dixon, Ibis, 1882, p. 563.

Figura unica.

Dixon, Ibis, 1882, pl. xiv.

Ad. suprâ schistaceo-canus, pileo pallidiore: fronte et striâ supraoculari usque ad nucham ductâ albis: uropygio et supracaudalibus albis: alis cum tectricibus alarum nigris, secundariis internis pallidè cervino apicatis: rectricibus centralibus ad basin albis in parte $\frac{2}{3}$ reliquo nigris, rectricibus reliquis albis conspicuè nigro apicatis: loris, mento et gulâ nigris: corpore reliquo subtùs albo: tibiis nigricantibus: rostro et pedibus nigris: iride fuscâ.

Adult Male (type). Upper parts clear slate-grey, paler on the head; forehead and a stripe which extends over the eye to the nape white; wings and wing-coverts black, the inner secondaries narrowly tipped with pale buff; rump and upper tail-coverts white; central rectrices white on the basal third, otherwise black, the remainder white broadly terminated with black, the external feather with rather more black on the outer web; lores, chin, and throat black, the rest of the underparts white except the thighs, which are blackish; axillars and under wing-coverts black, narrowly margined with dull white on the terminal portion: bill, legs, and feet black; iris dark brown. Total length about 6.25 inches, culmen 0.68, wing 3.87, tail 2.45, tarsus 1.05.

Adult Female (Djebel Mahmel). Resembles the female of *Saxicola ænanthe*, but is browner in tone of colour. (*Dr. Koenig in epist.*)

Young Male (Djebel Mahmel, May 5th). Differs from the adult in having the upper parts obscured by sandy buff, the black on the throat less extended, there being a broad central white line nearly up to the chin, and the black is intermixed with buff on the sides of the throat; the underparts are not so pure white as in the adult, and the wings are brownish black and not deep black.

THIS, the latest addition to the Western Palæarctic Chats, was discovered in the Province of Constantine, Algeria, by Mr. C. Dixon, who was sent thither to collect by Mr. H. Seebohm, and who named the species after his patron and employer.

Mr. Dixon writes respecting the discovery of this species (Ibis, 1882, p. 563) as follows:—"On the road from Oued Taga, when we were making the ascent of Djebel Mahmel, and about midway between those two places, we secured specimens of this novel and interesting Chat. On a small stony plain, almost devoid of vegetation, and at an altitude of 5500 feet, in a climate similar to early spring in England, they were fairly common. This bird must be an exceedingly local one, as we met it nowhere else in Algeria. They were not at all shy; and I shot our first specimen from the back of my mule as we slowly picked our way over the stony tract. In its

habits it closely resembles other members of this genus, flitting from rock to rock, occasionally taking a more extended flight close above the ground, perching on stones or the summit of a stunted bush to warily watch the intruder. We did not hear it utter a note; nor did we see any females. It is possible that this bird is confined to a few favourite localities in the Djebel Aurès; or it may be that it winters in the Great Sahara, and repairs northwards to these upland solitudes to rear its young. As is usual in such cases, we failed to note the value of our prize, and only shot two males. I have associated this fine species with the name of an ornithologist whose researches are intimately connected with this group of birds, and whose knowledge of them stands unequalled."

Until recently the only specimens known of this Chat were the two obtained by Mr. Dixon, which are in the collection of Mr. H. Seebohm; but in 1892 Dr. A. Koenig, of Bonn, on a collecting tour in Algeria, rediscovered this interesting Wheatear, and obtained three specimens, respecting which he writes me as follows:—"This interesting and very distinct species appears to have a very restricted range. I met with it, as did Mr. Dixon, on the desolate and arid heights of Djebel Mahmel, where it was not numerous, though the only species of Chat I observed there. I shot a pair, male and female, and also a second male, a young bird. I also found a nest, which contained the remains of an eggshell marked like the egg of *Saxicola aurita*. The present species appears to breed only in the Aurès Mountains at an altitude of from 1600 to 1800 metres."

Dr. Koenig is at present engaged in writing a work on the ornithology of Algeria, and will figure all three specimens obtained by him. Unfortunately the plates of this species had already been drawn for the present work when Dr. Koenig obtained his birds, or I should have figured the female or young male as well as the adult male.

The nearest ally to the present species appears to be *Saxicola phillipsi*, Shelley (Ibis, 1885, p. 404, pl. xii.), from Somali-land, which differs in having the black on the throat extended much lower on to the front of the chest, in having the wing-coverts, with the exception of the spurious wing, ashy white instead of black, the thighs white and not black, and the tail-feathers, with the exception of the two central rectrices, are tipped with white, and two thirds of the outer web is black.

The specimen figured and described is the type, for the loan of which I am indebted to Mr. Seebohm; and the descriptions of the adult female and young male are taken from the specimens obtained by Dr. Koenig, to whom I am indebted for the loan of the latter and for the description of the former.



J. G. S. 1861

Mintern Bros. 1861

EHRENBERGS CHAT.
SAXICOLA VITTATA.

SAXICOLA VITTATA.

(EHRENBERG'S CHAT.)

Saxicola vittata, Hempr. & Ehr. Symb. Phys., Aves, fol. cc (1828).

Saxicola leucolæma, Antin. & Salvad. Atti R. Acc. Sci. Tor. viii. p. 32 (1872).

Saxicola melanogenys, Severtzoff, Turk. Jevotn. p. 120 (1873).

Saxicola melanotis, id. op. cit. pl. viii. figs. 5, 6 (1873).

Figuræ notabiles.

Salvad. & Antin. Ann. Mus. Civ. Genova, iv. pl. ii.; Severtzoff, ut suprâ.

Ad. dorso, alis, loris et vittâ per oculum usque ad basin alæ ductâ nigris : pileo, nuchâ, mento, gulâ et corpore subtus albis : hypochondriis nigris : remigibus secundariis vix albido terminatis : rectricibus duabus mediis ad basin albis et in parte reliquâ nigris, rectricibus reliquis albis nigro apicatis : rostro et pedibus nigris : iride fuscâ.

Adult Male (type). Crown, nape, and upper parts of the back greyish white ; back and wings black ; rump and upper tail-coverts white ; secondaries and larger wing-coverts slightly tipped with dirty white ; median rectrices white on the basal third, otherwise black, remaining rectrices white, terminated with black, on the outermost pair this colour extends on the outer web along the terminal half ; lores and a broad band passing through the eye and joining the base of the wing jet-black ; chin, throat, and underparts generally pure white : bill and legs black ; iris brown. Total length about 6 inches, culmen 0·7, wing 3·9, tail 2·55, tarsus 0·7.

Female. I have not had an opportunity of examining a female, but, according to Dr. Severtzoff, it resembles the female of *Saxicola morio*, except that it has a white throat.

Obs. Neither of the two specimens, both males, in my collection is so finely coloured as the type. The specimen from Tashkend has the crown obscured by dirty grey, and the abdomen and under tail-coverts are washed with buff ; and the other, which I have figured, has the crown also obscured, and the black portions of the plumage tinged with brown.

FIRST discovered by Hemprich and Ehrenberg in Arabia, and described by them in 1833, this Chat was only known by the single specimen in the Berlin Museum until, more than forty years later, it was rediscovered by Antinori in Bogos, Northern Abyssinia, and redescribed by him and Salvadori under the name of *Saxicola leucolæma*. So far as is at present known, it inhabits Transcaspia, Turkestan, and Gilgit in the summer, migrating south to Arabia and Abyssinia for the winter.

Zarudny met with it twice during his journey in Transcaspia, on the 23rd June near Kizil-Arvad, and on the same date near the village of Bendessen. He further remarks that he frequently met with it in the middle of June on the rocks near Baku, but it is not included

by Dr. Radde in his 'Ornis Caucasica.' He also says (Bull. Soc. Mosc. n. s. iii. p. 768) that he saw several of these Chats during the last days of August on the steep banks of the Attrek, near Jagly-Oloum and Tschat. They were probably on migration.

Mr. S. Scully obtained two specimens, both males, in Gilgit, where he says (Ibis, 1881, p. 444) it "appears in very small numbers, and probably on migration only;" and Major Biddulph procured an adult male at the same place on the 4th June, and remarks (Ibis, 1882, p. 277) that three others were seen at the same time.

According to Severtzoff it breeds in North-western Turkestan, and possibly also in the south-western portion, where it is usually met with on passage.

The adult male figured and described is the type, which the late Dr. Peters, of Berlin, kindly forwarded to me in order that I might describe and figure it; and the second figure on my Plate is that of the male from Tschimkent in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Tschimkent, March 29th. *b*, ♂. Tashkend, March 18th (*Severtzoff*).

E Mus. Berol.

a, ♂ *ad.* Moileh, Arabia (*Hemprich & Ehrenberg*).



Chrysopygia del. et. sculp.

Albinigra. E. J. N. S.

1. RED-TAILED CHAT.
SAXICOLA CHRYSOPYGIA.
2. HUME'S CHAT.
SAXICOLA ALBINIGRA.

SAXICOLA ALBINIGRA.

(HUME'S CHAT.)

Saxicola alboniger, Hume, Stray Feathers, i. p. 2 (1873).

Dromolæa alboniger, id. tom. cit. p. 185 (1873).

Saxicola albonigra (Hume), Blanf. & Dresser, P. Z. S. 1874, p. 226.

Saxicola albinigra (Hume), Oates, Faun. Brit. India, Birds, ii. p. 70 (1890).

Figura unica.

Blanford, E. Persia, ii. pl. xi.

Ad. capite, collo, gulâ, dorso antico et tectricibus alarum nitenti-nigris : dorso postico suprâ et subcaudalibus, pectore et abdomine albis : remigibus sordidè nigris : caudâ albâ nigro terminatâ, rostro et pedibus nigris : iride fuscâ.

Adult Male (Kandahar, November 28th). Head, neck, throat, the upper part of the back, upper and under wing-coverts, and axillaries glossy black ; lower back, rump, upper tail-coverts, breast, abdomen, and under tail-coverts pure white ; quills dull black, paler on the under surface ; tail white, broadly terminated with black, which is again narrowly tipped with white : bill and legs black ; iris dark brown. Total length about 6 inches, culmen 0·8, wing 3·9, tail 2·55, tarsus 1·05.

Adult Female (Upper Sind). Undistinguishable in plumage from the male.

Young. Similar to the adult.

THE present Chat, remarkable on account of there being no difference between the plumage of the adult male and the female or the nestling, has, so far as we at present know, a very limited range, being found in Persia, Baluchistan, Sind, and Gilgit, where it appears to be resident—frequenting the hills during the breeding-season, and the valleys and lowlands during the winter months.

Mr. Blanford obtained this bird in Baluchistan, where he does not think it common ; and on the 10th May he found close to Karmân, in Persia, a female and two young birds in a small cave under a limestone hill, and remarks that though the young were nestlings, scarcely able to fly, they were precisely similar in coloration to the adults. Sir O. St. John did not meet with it at Shiraz, but he obtained (Ibis, 1889, p. 163) an adult male and a nestling in May near Kandahar, where Col. Swinhoe also found it common throughout the winter, but missed it after the middle of February.

Col. Biddulph says (Ibis, 1881, p. 58) that it was never very common in Gilgit, but is the only Chat which remains there in winter. He procured specimens both in January and June. Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 70) gives the range of the present species as “ the hills

dividing Sind from Kelát, ranging west to Sehwán and Lárkána; Gilgit at 5000 feet; extending west to Persia," and adds that it is no doubt resident in Sind and Gilgit, as it probably is in the other parts of its somewhat limited range.

I find nothing on record respecting the habits and nidification of this Chat beyond the fact that Mr. Blanford found it breeding near Karmán in Persia, as already stated. This Chat is nearest allied to *Saxicola picata*, but is larger and has a conspicuously larger bill, and the black of *S. picata* is duller. Moreover, in the present species the female and young are similar in coloration to the adult male, whereas in *S. picata* the female and young are dusky and not black.

The specimen figured is the adult male above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kandahar, November 28th, 1880 (*Col. Swinhoe*). *b*, ♂ *ad.* Gilgit (*Biddulph*). *c*, ♀ *ad.* W. of Shikapur, Upper Sind, March 16th, 1875 (*W. T. Blanford*).



J. B. Zschernschens del et lith.

Mintern Bros. imp.

PIED CHAT.
SAXICOLA PICATA.

SAXICOLA PICATA.

(PIED CHAT.)

Saxicola picata, Blyth, J. As. Soc. Beng. xvi. p. 131 (1847).

Dromolæa picata (Blyth), Gould, B. of Asia, pt. xvii. (1865).

Figura unica.

Gould, B. of Asia, iv. pl. 26.

♂ *ad.* capite, collo, dorso, alis et pectore saturatè sed sordidè nigris : uropygio, supracaudalibus, cum corpore reliquo subtùs albis : subalaribus nigris : rectricibus centralibus ad basin albis, aliter nigris, rectricibus reliquis albis nigro terminatis : rostro et pedibus nigris : iride fuscâ.

♀ *ad.* corpore suprâ fusco nec nigro, et caudâ albâ et nigro-fuscâ nec albâ et nigrâ : mento griseo-fusco, gulâ nigro-fuscâ : corpore reliquo subtùs et supracaudalibus albis.

Adult Male (Gheregirh). Head, neck, back, throat, upper breast, and wings deep but rather dull black ; rump and upper tail-coverts white ; underparts below the upper breast white, under wing-coverts black ; central tail-feathers white at the base, but otherwise black ; remaining rectrices white, broadly terminated with black : bill and legs black ; iris dark brown. Total length about 6 inches, culmen 0·65, wing 3·5, tail 2·7, tarsus 1·0.

Adult Female (Kohistan, Sind). Upper parts brown instead of black ; tail as in the male, but blackish brown where that is black ; chin greyish brown ; throat blackish brown ; rest of the underparts, rump, and upper tail-coverts white.

Young (*fide* Oates). Resembles the female, but is mottled below, and the crown is always of the same colour as the back.

THE present species inhabits during the summer season the mountain districts of Afghanistan, Baluchistan, Persia, and Gilgit, wintering in the low countries and on the plains of India, and its range extends west to the Transcaspian Region and Muscat in Arabia.

Mr. Zarudny found it in Transcaspia very common in stony places and in rocky mountains, and remarks that it does not descend into the plains nor ascend to any great altitude in the mountains. Early in July, during the great heat of the day, he on several occasions saw old males in full moult perched, singing, on a branch in the shade of a low tree, whereas otherwise they avoid wooded localities.

Dr. Radde (Vög. Transcaspiens, p. 60) remarks that it chiefly frequents the mountains in the summer, though during passage it is naturally found also on the plains. He heard its sweet song everywhere in the narrow ravines both in the Kuba-dagh as also in the Balchan and Kopet-dagh. He met with the first near Geok-tepe on the 15th March, 1886 ; on the 26th March they

were migrating numerous on the plain near Kaaka, and also at Duschak from the 28th March to the 1st April. In 1887 they were numerous on migration in the sand district of Utsh-adshi from the 15th to the 28th March, and at Alt-Merv between the 17th and 30th March. On the 5th June, 1886, he found fledged young ones at Germab.

Mr. Blanford (E. Pers. ii. p. 154) says that he met with this bird commonly in Baluchistan in January and February, and that it breeds throughout the southern highlands of Persia, but he did not himself observe it north of Shiraz. Sir Oliver St. John, however, obtained a specimen in the Elburz Mountains, North Persia.

Sir Oliver St. John also records it from S. Afghanistan and Kelát (Ibis, 1889, p. 163), where it arrives from India very early in the spring, and commences nidification at once. He obtained it at Kandahar on the 3rd of February, and Col. Swinhoe observed it at Quetta in May.

Col. Biddulph found it common in Gilgit during the summer. During the winter season, according to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 71), it visits the plains of the Punjab, Sind, Guzerat, Rajputana, as far east as Deesa and Sámbar, and the North-west Provinces down to Allahabad. At this season it is also found in the low country of Baluchistan and Afghanistan.

Professor Valentine Ball met with this Chat in the Suliman Hills at a considerable elevation, and found a nest in the rocks at an elevation of 5880 feet. He remarks that they had very much the habits of *Copsychus saularis*. Towards evening, he says, they used to come about the bungalow, perching on the verandah, and singing with a low twittering note. Occasionally they would pick up insects off the ground, and sometimes capture them while on the wing.

I may further add that, according to Dr. Sharpe (Ibis, 1886, p. 164), this Chat was obtained by Col. Miles near Muscat, in Arabia.

The present species breeds from March to June, placing its nest in rocks, in stone walls, or in the hollow of a tree. Lieut. H. E. Barnes (Nests and Eggs of Ind. Birds, ii. p. 53) describes a nest, which he found in a hole in a tree in March, as being "composed of dry grass lined with feathers, and containing four eggs of a very delicate greenish-blue tint, obsoletely speckled with rusty brown or pale brownish red at the larger end, where the markings form an irregular zone. A few specks of the same colour are scattered over the rest of the surface of the egg. The average of twelve eggs is .81 by .56."

The specimens figured are the adult male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

- a*, ♂ *ad.* Gheregirh, January 13th, 1866. *b*, ♀ *ad.* Kohistan, Sind, November 28th, 1875 (*W. T. Blanford*).
c, ♀. Etawah, India (*W. E. Brooks*). *d*, ♂. Neemuch, October 24th, 1884 (*H. E. Barnes*).

SAXICOLA CHRYSOPYGIA.

(RED-TAILED CHAT.)

Dromolæa chrysopygia, De Filippi, Arch. Zool. Genova, ii. p. 381 (1863).

Saxicola kingi, Hume, Ibis, 1871, p. 29.

Saxicola chrysopygia (De Fil.), Blanf. & Dresser, P. Z. S. 1874, p. 230.

Figura unica.

Blanford, E. Persia, pl. x. fig. 1.

Ad. capite et corpore suprâ fuscis, loris et regione paroticâ saturatè fuscis : striâ superciliari indistinctâ griseâ : uropygio et supracaudalibus rufescenti-cervinis : remigibus fuscis, secundariis griseo-cervino marginatis et apicatis : caudâ castaneâ nigro terminatâ et pallidè castaneo angustè apicatâ : subtùs griseo-albidus, pectore et hypochondriis pallidè fusco lavatis, et subcaudalibus pallidè castaneo tinctis : rostro et pedibus nigris : iride fuscâ. Sexus similes.

Adult Male (W. of Schwân, Sind). Upper parts hair-brown, lores and ear-coverts dark brown ; an indistinct dull grey stripe over the eye ; rump and upper tail-coverts warm rufous buff ; quills brown, the secondaries margined and tipped with warm greyish buff ; tail chestnut-red, with a broad terminal black band, and finally tipped with pale chestnut-red ; underparts generally greyish white, the breast and flanks washed with pale brown, and the under tail-coverts with dull chestnut : bill and legs black ; iris dark brown. Total length about 6 inches, culmen 0·75, wing 3·7, tail 2·75, tarsus 1·0.

Adult Female (Gwadâr, Baluchistan). Undistinguishable in plumage from the male. Culmen 0·75 inch, wing 3·62, tail 2·5, tarsus 1·05.

THE present species, like *Saxicola albinigra*, is remarkable in being similar in plumage in both sexes, and in all probability the young does not differ from the adult, but up to the present time I cannot find any description of the immature dress on record.

It is found throughout Persia in the summer, and is, according to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 79), apparently a winter visitor to the plains of North-west India, being found in the Punjab west of the Jhelum River, Sind, Cutch, Northern Guzerat, and Rajputana as far east as Jodhpur. According to Mr. Blanford (E. Persia, ii. p. 151) it occurs throughout Persia, in summer at all events, in Baluchistan, Sind, Kachh, and North-western India, but it has not been met with west of Persia nor east of the desert region of North-west India. I find it recorded by Dr. Sharpe (2nd Yark. Miss. p. 86) from Panjah ; and Col. Swinhoe remarks (Ibis, 1882, p. 107) that he observed it in Southern Afghanistan, at Quetta, and in the Bolan Pass.

Mr. A. O. Hume describes this Chat under the name of *Saxicola kingi* from a specimen killed at Jodhpur, and says ('Stray Feathers,' i. p. 188) that he subsequently obtained it in considerable numbers from the Salt Range, Murdan, and Peshawur, and also in the summer

from the ranges bounding Cashmere on the south; it is common about Sind and the Punjab west of the Jhelum, comparatively rare where there is any cultivation. He found it alike on the earthen cliffs of the Jhelum near Jung, and other similar localities of the Chenab and Indus, and again in precipitous places throughout the hills that divide Kelát from Sind and that run parallel to the Mekrán coast. Occasionally, but rarely, he found it, as near Mooltan, in fallow fields.

This Chat frequents rocky and barren localities, and is seldom seen where there is cultivation. De Filippi first obtained it in the highest and most stony parts of the hills which encircle Demavend; and Mr. Blanford's specimens were shot in stony ravines. Mr. Hume remarks that it is strictly terrestrial, and that he never once saw it perch on a bush or tree. Nothing is known respecting its nidification, but Mr. Blanford surmises that it breeds amongst the rocks.

The specimen figured is the adult male above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. West of Schwán, Sind, February 1875. *c*, ♀. Gwadár, Baluchistan, December 1871 (*W. T. Blanford*).



J. S. Newlands del. et lith.

Miner Bros. imp.

PIED BUSH-CHAT.
PRATINCOLA CAPRATA.

PRATINCOLA CAPRATA.

(PIED STONE-CHAT.)

Rubetra lucionensis, Briss. Orn. iii. p. 442. no. 30, pl. xxiv. figs. 2, 3 (1760).

Motacilla caprata, Linn. Syst. Nat. i. p. 335. no. 33 (1766), ex Briss.

La Traquet de l'Isle de Luçon, D'Aubenton, Pl. Enl. 235. figs. 1, 2.

Enanthe caprata (Linn.), Vieill. Nouv. Dict. xxi. p. 433 (1818).

Sylvia caprata (Linn.), Vieill. Tabl. encycl. méthod. p. 490 (1820).

Saxicola fruticola, Horsf. Tr. Linn. Soc. xiii. p. 157 (1822).

Saxicola bicolor, Sykes, Proc. Zool. Soc. 1832, p. 92.

Saxicola erythropygia, Sykes, tom. cit. p. 92.

Motacilla sylvatica, Tickell, J. As. Soc. Beng. ii. p. 575 (1833).

Saxicola caprata (Linn.), Jerdon, Madras Journ. x. p. 265 (1839).

Muscicapula melanoleuca, Hodgs. J. As. Soc. Beng. xii. p. 940 (1843).

Saxicola meloleuca, Hodgs. in Gray's Zool. Misc. p. 83 (1844).

Muscicapa melanoleuca (Hodgs.), Gray, Gen. of B. i. p. 264 (1846).

Pratincola caprata (Linn.), Blyth, J. As. Soc. Beng. xvi. p. 129 (1847).

Pied Bush-Chat, *White-winged Black Robin* (of Indian authors); *Pidha*, *Kala-pidha*, Hind.;
Kumpa nalanchi, Tel. (*vide* Oates).

Figuræ notabiles.

D'Aubenton, Pl. Enl. 235; Hodgs. Icon. ined., Passeres, pl. 98.

♂ *ad.* niger, uropygio imo, supra- et subcaudalibus, abdomine imo maculâque tectricum alari albis: rostro et pedibus nigris: iride fuscâ.

♀ *ad.* suprâ saturatè griseo-fusca, indistinctè saturatior, striata, pilco saturatior, supracaudalibus saturatè ferrugineis: caudâ nigrâ: remigibus rufescenti-cervino marginatis: corpore subtùs fusco, indistinctè striato, abdomine et subcaudalibus ferrugineo-cervinis: mento et gulâ magis griseo tinctis.

Adult Male in spring (Kashmir, April). Entire plumage deep black, excepting the lower rump, upper and under tail-coverts, lower abdomen, and upper wing-coverts near the body, which are white, the last forming a conspicuous white patch on the wings: bill and legs black; iris dark brown. Total length about 5·25 inches, culmen 0·5, wing 2·75, tail 2·1, tarsus 0·82.

Adult Male in autumn (near Simla, August 12th). Differs from the spring plumage in having the black feathers slightly edged with reddish or greyish brown.

Adult Female (Muddapur, November 3rd). Upper parts dark hair-brown with a greyish tinge, and with indistinct darker stripes; crown rather darker than the back; upper tail-coverts dark rust-red; tail black; wing-feathers narrowly margined with warm rufous buff; underparts wood-brown, becoming

rusty buff on the abdomen and under tail-coverts; the chin and throat greyer, and the underparts generally with very indistinct darker streaks.

Nestling (Java). Upper parts deep fulvous brown, spotted with warm buff; upper tail-coverts rusty buff; tail black; chin, throat, and breast greyish brown, closely spotted with warm buff; the abdomen warm buff, with indistinct darker markings; under tail-coverts warm buff.

THIS Stone-Chat has a wide range, being found from the Transcaspian district in the west, through Persia, Afghanistan, and India to Java and the Philippine Islands. In Southern India and Ceylon it is replaced by *Pratincola atrata*, which differs in being larger and having a much larger and more massive bill.

Professor Menzbier informs me that it has occurred in European Russia as a rare straggler, as a specimen was obtained by Mr. Zarudny on the 2/14th May, 1882, in the vicinity of Sakmarsk, on the river Sakmara.

Zarudny also records it (Bull. Soc. Mosc. iii. p. 766) as inhabiting Transcaspia, where he first met with it on the 10th of May on the banks of the Douchak, evidently on migration, and about the middle of May he frequently saw pairs, evidently nesting, on the Alikhanow canal. In the Merv oasis he found it extremely common, and it is said, he adds, to be especially numerous in the oases of Khiva and Tchardjoüi, and along the Amou-Darja. Except during passage it affects cultivated districts, and the plains covered with rich herbage and isolated patches of rushes. It nests in holes and fissures of walls and of ditches, and on the ground under the low rushes. He found nests late in May containing young.

Radde and Walter (Vög. Transcasp. p. 61) remark that up to Tedshen they never observed a single one, either in the summer or on passage, but from that river towards the east it is common chiefly in the reeds and tamarisk-bushes by water. It is wanting in the bare sand-deserts of the Afghan frontier. Northwards it was found in the reeds on the furthest part of the Tedshen. In 1887 the first arrived on the 4th April, between Geok-tepe in the Merv oasis and Tolchatan-baba.

Mr. Seebohm records (P. Z. S. 1879, p. 764) this species from the Attrek; but Radde and Walter remark that it must have come from the upper part of that river, as neither they nor Nikolsky ever found it on the lower portion.

Mr. Blanford says (E. Pers. ii. p. 144) that "*Pratincola caprata* was not observed near the coast in Mekrán; but the bird is far from rare about Dizak Bampúr and Bam, keeping of course to those portions of the country in which trees and bushes are common, and being often seen in the gardens and orchards around towns and villages. It does not appear to ascend to the Persian highlands, and I did not meet with it after leaving Bam."

Sir O. St. John says (Ibis, 1889, p. 163) that this Chat is common all over Southern Afghanistan and Kelát, and a few remain about Kandahar and Quetta to breed. Col. Swinhoe records it as being numerous at Kandahar in March and April, and Mr. Scully states that he found it at Herat and Murghab from March to May, and he obtained it once at Gilgit in December. According to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 60) this Chat is a resident species throughout the whole of India and Burma, except the southernmost parts of the peninsula

of India and portions of Tenasserim. This bird ascends the Himalayas up to 8000 feet, probably in summer only. It is found in the south as far at least as Maddur in Mysore. It is more or less abundant throughout the peninsula, and through Assam and the Burmese provinces to Pegu. In Tenasserim, Mr. Davison observed this bird in the northern and central portions, but not in the extreme south, and Major Wardlaw Ramsay procured it in Karennee. Mr. Oates further states (B. of Brit. Burmah, i. p. 281) that "it is one of the commonest birds of Burmah, being found in every part of the country except forest-land, and is a resident." He also says that it is common everywhere in Pegu in localities suited to its habits. Blyth records it from Arrakan.

It has been recorded from Macassar (*Wallace*), the Philippines, Bohol, Zebu, Luzon (*Lord Tweeddale*), Java (*Horsfield* and *Wallace*), Lomboek, Timor, and Flores (*Lord Tweeddale*).

In its general habits this Stone-Chat is said to be confiding except during the breeding-season, when it is shy and wary, and consequently its nest is not easy to find. Its song is clear and good, and is said by Mr. Brooks to be considerably superior to that of *Pratincola maura*.

The breeding-season is from March to June, the eggs being usually deposited in March and April in the plains, and in May in the hill-country. Mr. A. O. Hume, in his 'Nests and Eggs of Indian Birds,' gives detailed accounts of its nidification communicated by naturalists from various parts of India, from which it appears that the nest is placed in a hole in the ground or in the side of a bank, or some way down the side of a well, occasionally, but rarely, in a dense bush or tuft of grass on or close to the ground, and is a shallow, somewhat saucer-shaped pad, composed of soft grass, fine roots, &c., and lined with the same or other soft material, hair, &c. The complement of eggs is four, more rarely five, and occasionally only three, and they are not unlike those of the English Stone-Chat, being delicate pale bluish green finely speckled, mottled, and streaked with brownish red, these markings being always more numerous at the larger end, where they occasionally form a zone. They vary greatly in size, in length from 0.6 to 0.77 inch, and in breadth from 0.44 to 0.64, the average size of 50 eggs being 0.67 by 0.55 inch.

The specimens figured are the adult male in spring and the adult female in winter plumage above described, and are in my own collection, as is also the male in autumn also described, but the nestling is in the collection of Mr. H. Seebohm.

In the preparation of the above article I have, besides the series in the British Museum, examined the following specimens:—

E Mus. H. E. Dresser.

- a, b*, ♂. Merv, June 14th, 1886 (*Dr. G. Radde*). *c*, ♂. Kandahar, March 30th, 1881 (*Col. Swinhoe*).
d, ♂. Near Simla, August 12th, 1868 (*A. O. Hume*). *e*, ♂. Saugor, July 29th, 1869 (*A. O. Hume*).
f, ♂. Saugor, December 15th, 1888 (*H. E. Barnes*). *g*, ♂. Valley of Ghurror, Kashmir (*Whitely*).
h, ♀. Muddapur, November 3rd (*A. O. Hume*).

E Mus. H. Seebohm.

- a, pull.* Java (*Wallace*).



H. G. Keulemans del.

Macmillan & Co. pub.

CANARIAN CHAT.
PRATINCOLA DACOTIÆ

PRATINCOLA DACOTIÆ.

(CANARIAN CHAT.)

Pratincola dacotiæ, Meade-Waldo, Ibis, 1889, p. 504.

Figura unica.

Meade-Waldo, Ibis, 1889, pl. xv.

♂ *ad.* suprâ brunneo-niger, fusco limbatus : caudâ brunneâ, rectricibus externis albo limbatis : loris et capitis lateribus nigris, lineâ supraoculari et postoculari albâ : gulâ et thorace albis : pectoris cincturâ pallidè castaneâ, abdomine albido : hypochondriis et crisso albis, secundariis majoribus interioribus albis, reliquis albo marginatis : rostro et pedibus nigris.

♀ *ad.* suprâ brunnea : gulâ, thorace et abdomine albidis, cincturâ castaneâ pectoris pæne obsoletâ, aliter mari similis.

Adult Male (Fuerteventura). Crown and nape blackish brown, with indistinct lighter edges to the feathers ; rest of the upper parts similarly coloured, but with broader light margins to the feathers ; lores and sides of the head black ; a white line extending from the base of the bill over and behind the eye ; tail brown, the outer rectrices with whitish margins ; innermost secondaries white, the remainder margined with white ; chin, throat, and underparts white, with a pale rusty red patch on the breast : bill and legs blackish ; iris brown. Total length about 4·9 inches, culmen 0·62, wing 2·5, tail 2·3, tarsus 0·9.

Adult Female (Fuerteventura). Differs from the male in being paler and duller in coloration, the crown having the light edges to the feathers broader, and the rufous patch on the breast is nearly obsolete.

FIRST described in 1889 from Fuerteventura (one of the Canary Islands), the present species of Chat is as yet not known to occur anywhere else, though, as pointed out by Canon Tristram, the opposite coast of Africa is still unexplored, and it is possible that further research may show that it is also to be met with there.

Mr. Meade-Waldo, the discoverer of this species, obtained ten specimens on Fuerteventura, and writes (Ibis, 1889, p. 504) as follows:—"The day that I landed I saw two pairs of the *Pratincola*, and watched carefully for it all the time I was in the island. I came to the conclusion that it is thinly distributed from the mountains to the sea-beach, and that it lives only where there is some vegetation. Perhaps its favourite haunts are the small barrancos on the north slope of the mountains ; but I procured two pairs on the sea-beach, and the cock bird of a pair, which were feeding young ones, on a lava-stream. It is a singularly quiet little bird, hardly putting itself out when its young ones are being handled, flying tamely from bush-top to bush-top, and occasionally uttering a low *chut, chut*. I found two nests, each containing two large young. The nests were placed on the ground under stones or, rather, in one instance,

under a rock. They are exceedingly early breeders, as by the middle of February the young were full-grown. After I left the island I got a clutch of three eggs, evidently of this species, among a number of eggs sent from the island; they are very round and glossy, with a very thick shell, of the colour of Blackbird's eggs, but with the spots very faint or like intensely bright-coloured eggs of *Pratincola rubicola*."

Mr. Meade-Waldo believes that this Chat is restricted to the Island of Fuerteventura, and remarks, in his subsequent notes on his visit to Lanzarote, that he saw no trace of it there.

The specimens figured and described are those that were figured in 'The Ibis,' and are now in my collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. Pozo Negro, Fuerteventura, February 26th, 1889 (*Meade-Waldo*).



J.C. Yeulemans lith.

Hanhart imp.

GOULDS REDSTART.
RULICILLA OCHRURA

RUTICILLA OCHRURA.

(GOULD'S REDSTART.)

Mottacilla ochruros, S. G. Gmelin, Reise Russl. iii. p. 101, pl. 19. fig. 3 (1774).

Motacilla ochrura, J. F. Gmelin, Syst. Nat. i. p. 978 (1788, ex S. G. Gmel.).

Sylvia tithys, Ménétr. Cat. Rais. p. 35 (1832, nec Scop.).

Sylvia tithys, Nordm. Obs. sur la Faune pontique, p. 134 (1840, partim).

Ruticilla erythroprocta, Gould, Proc. Zool. Soc. 1855, p. 78.

Ruticilla tithys, De Fil. Viagg. Pers. p. 276 (1865, nec Scop.).

? *Ruticilla titys*, Blanf. E. Persia, ii. p. 166 (1876, nec Scop.).

Ruticilla ochruros (Gmel.), Bogdanow, Ptitsui Kavkaza, p. 96 (1879).

Gorichvostka gornaya, Russian.

Figuræ notabiles.

Gould, B. of Asia, part viii. pl. 16 ; Radde, Orn. Cauc. tab. xvi.

♂ *ad.* capite, nuchâ et dorso imo schistaceis : fronte, capitis lateribus et lineâ supraoculari, gulâ, gutture et pectore, cum dorso reliquo saturatè nigris : dorsi plumis vix schistaceo marginatis : remigibus nigricantibus, secundariis vix griseo albido extûs marginatis : uropygio, supracaudalibus et caudâ castaneis, rectricibus mediis fuscis : abdomine et subcaudalibus sordidè castaneis, illo centraliter albido notato : subalaribus nigris : rostro et pedibus nigris : iride fuscâ.

♀ *ad.* brunnescenti-fuliginosa : remigibus nigricantibus, extûs brunnescenti-albido marginatis et apicatis : caudâ ut in mare, sed sordidior, supracaudalibus sordidè ferrugineis : abdomine pallidè castaneo lavato : rostro et pedibus nigris : iride fuscâ.

Adult Male (Euphrates Valley, February 15th). Crown, nape, and lower part of the back slate-grey ; forehead, sides of the head, including a narrow space above the eye, neck, throat, and breast, together with the wing-coverts and back (excepting the lower portion) deep black, the feathers on the back slightly edged with slate-grey ; quills blackish, the secondaries externally margined with greyish white ; rump and upper tail-coverts chestnut-red ; median rectrices dark brown, the rest of the tail being chestnut-red ; abdomen and under tail-coverts chestnut-red, slightly marked with white on the centre of the abdomen ; under wing-coverts black : bill and legs black ; iris dark brown. Total length about 6 inches, culmen 0.5, wing 3.25, tail 2.5, tarsus 0.85.

Adult Female (Erzeroum). Resembles the female of *R. titys*, but has the lower abdomen tinged with pale chestnut, and the underparts are less of a pure grey tinge.

DESCRIBED as far back as 1774, this Redstart has until quite recently been looked on, owing to the scarcity of specimens for comparison, as a bad species, and Gmelin's name has been usually

placed amongst the synonyms of *Ruticilla titys*. Gould, who procured specimens from Erzeroom, at once recognized it as a good species, but did not identify it with the bird obtained by Gmelin, and redescribed it in 1855 under the name of *Ruticilla erythroprocta*; and when Mr. Seebohm wrote vol. v. of the British Museum Catalogue in 1881, although he included Gould's *R. erythroprocta* as a good species, he remarked that he suspected the female to be a specimen of *Ruticilla rufiventris*, and the male a hybrid between *R. rufiventris* and *R. titys*. Two years later, after having seen specimens in the Museum at St. Petersburg, he wrote (*Ibis*, 1883, p. 17):—"There can be no doubt that the *Motacilla ochrura* of Gmelin, from the Persian mountains, is Gould's Redstart (abdomine flavo), and not the Black Redstart, to which I have erroneously assigned it in the 'Catalogue of Birds.'"

This Redstart inhabits Asia Minor and the Caucasus, and recent investigations in the latter country have thrown much light on this hitherto so little-known species. Gould received the two specimens which he described from Erzeroom nearly forty years ago, and I have received it from the same locality through the late Mr. James Zohrab. Mr. C. G. Danford shot two adult males in Asia Minor—one in the Taurus Mountains in 1876, and the second in the Euphrates Valley in 1879,—both of which are in my collection; and as he referred them to *R. titys* it is probable that his notes as follows (*Ibis*, 1878, p. 15)—"Generally common, and sedentary in the mountains throughout the winter. Specimens obtained in spring are extremely dark-coloured,"—refer to the present species.

Bogdanoff found this Redstart not uncommon in the Caucasus; and Dr. G. Radde writes (*Ornis Caucas.* p. 255) that "it is only seen on migration in the lowlands, and I only know it as breeding in the mountains. From Mleti on the south side of the Great Caucasus to the Kazbek on the north side of the Grusinish military road it is to be met with everywhere. It nests in the clefts of the perpendicular cliffs at Kobi. Also in the elevated villages in the country of the Tuschen, Chewsuren, and Swanen, there were everywhere families of this bird to be seen which had their nests in the walls of the slate-built towers, to a height of 80 feet. This species arrives at Lenkoran about the 14th (26th) March, and at Tiflis about the 27th March (8th April)."

Lorenz, who collected 32 specimens in the Northern Caucasus, writes (*Orn. Faun. Kauk.* p. 24):—"Of all the Redstarts I met with during the breeding-season in the localities I visited, this was the most numerous, and was met with everywhere in places where there were rocks and precipices. In all the ravines near Kislovodsk up to the heights of the springs of the Beresovaya and Alikanovka, on the heights of the Dschinal and Bermamit (to about 8000 feet altitude), I met with and obtained it. In spite, however, of its abundance it is difficult to obtain a series, as it is so extremely shy and one seldom gets a chance of a shot at it."

In habits the present species is said to resemble *Ruticilla titys*, but, unlike that bird, it does not frequent inhabited places, and is generally found, at least during the nesting-season, in rocky places in the mountains, and nests in the clefts of the rocks. The late Mr. James Zohrab, when Consul at Erzeroom, sent me specimens obtained during the breeding-season, together with a nest and eggs, which he assured me were most carefully identified. The nest is rather small, constructed of bents and fine roots, and lined with fine roots and a few hairs but no feathers; and the eggs, all of which, except one which is now in my collection, arrived broken, closely resembled

those of *Ruticilla titys*, but were not pure white, only very faint blue, and the one specimen I have remaining has now faded until it is nearly white.

This does not, however, agree with Mr. Lorenz's description of the nest and eggs of this bird, for he writes (*op. cit.* p. 27) as follows:—"On the 10th May, 1885, a nest was found in a cleft in the rocks in the Alikanovka ravine, containing four strongly incubated eggs, which in colour resemble those of *R. phœnicurus* but are somewhat darker. The nest is flat and constructed of moss, fine grass-bents, and many feathers, most of which are those of *Merula torquata* and *Columba livia*. The interior of the nest is well lined with feathers, sheep's wool, and horse-hair. The bird has a somewhat short but very agreeable song."

Mr. Lorenz remarks that the specimens he obtained varied considerably *inter se*, and that of the twenty-two males only five were typical *R. ochrura*, four others are typical except that they have more or less white on the forehead, and the rest represent stages up to the almost typical *R. titys*; and he further says:—"Many German naturalists would unite this species and *R. titys*; but I do not endorse this view, as the typical *R. titys* does not occur in the Caucasus, and I believe that the grey-bellied form of *R. ochrura* is the original progenitor both of typical *R. ochrura* and *R. titys*, but is dying out." I am indebted to Mr. Seebohm for the loan of five specimens from the Caucasus, three males and two females, obtained through Mr. Holst, but collected, I believe, by Mr. Lorenz.

Compared with my specimens these males have the abdomen rather more rufous, nearly as much so as in *R. rufiventris*, and the black scarcely so far extended; and in specimen *b* the axillaries and under wing-coverts are slightly marked with rufous buff, not black as in my examples. Dr. Radde also remarks that the specimens he examined are subject to some variation, and that one male from Kûs-jurdi exhibits a tendency towards *Ruticilla titys*.

The present species may best be compared with *Ruticilla titys*, from which the male differs in having the black extended much further down the breast to the abdomen, which latter is chestnut-red and not grey. The upper and under wing-coverts and axillaries are black in the present species, and grey in *R. titys*, and the back is black, whereas in *R. titys* it is slate-grey, very seldom being tinged with black. The female most nearly resembles the female of *R. titys*, but has the lower abdomen tinged with chestnut-red. Compared with the female of *R. rufiventris* it is of a darker grey colour, and the upper parts are of a purer grey, for in *R. rufiventris* the grey is slightly tinged with buff.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Biridjeli, Euphrates Valley, February 15th, 1879 (*C. G. Danford*). *b*, ♂ *ad.* Anascha Taurus, March 30th, 1876 (*C. G. Danford*). *c*, ♂, *d*, ♀. Erzeroom (*J. Zohrab*). *e*, ♂ *ad.* Kislovodsk, N. Caucasus, Sept. (*Dr. Menzbier*). *f*, ♀ *ad.* Beresovaya, N. Caucasus, June 5th (*Dr. Menzbier*).

E Mus. H. Seebohm.

a, ♂ *ad.* Beresovaya, Kislovodsk, April 16th. *b*, ♂ *ad.* Dichisual, May 17th. *c*, ♂ *ad.* Kitsch-Malk, N. Caucasus, May 16th. *d*, ♀ *ad.* Alikanovka, Kislovodsk, N. Caucasus, May 9th. *e*, ♀ *ad.* Alikanovka, May 21st (*Holst*).

E Mus. Brit.

a, ♂, *b*, ♀. Erzerroom (*Dickson & Ross*), types of *R. erythroprocta*, Gould.



J. G. Keulemans del. et lith.

Mintern Bros. imp.

EVERSMANN'S REDSTART.
RUTICILLA ERYTHRONOTA

RUTICILLA ERYTHRONOTA.

(EVERSMANN'S REDSTART.)

Sylvia erythronota, Eversm. Add. Pall. Zoogr. Rosso-As. fasc. ii. p. 11 (1841).

Ruticilla erythronota (Eversm.), Bonap. Consp. Gen. Av. i. p. 297 (1850).

Sylvia (Ruticilla) erythronota (Eversm.), Middendorff, Sibir. Reise, ii. pt. 2, p. 175 (1853).

Ruticilla rufogularis, Moore, P. Z. S. 1854, p. 27, pl. lix.

"*Ruticilla rufogularis*, Moore," Hume, Ibis, 1870, p. 530.

Figuræ notabiles.

Middendorff, Sib. Reise, Taf. xv. fig. 3; Moore, P. Z. S. 1854, pl. 59.

♂ *ad.* pileo et nuchâ cinereis: capitis lateribus et lineâ angustâ ad basin rostri cum regione paroticâ nigris: dorso, uropygio et supracaudalibus ferrugineis: alis nigricantibus, versûs humerum atris: remigibus griseo-albis marginatis: remigibus primariorum albis nigro apicatis: tectricibus majoribus nigro-fuscis, albedo apicatis, minoribus albis: rectricibus duabus mediis fuscis, reliquis ferrugineis, duabus externis in pogonio externo fusco terminatis: mento, gulâ et pectore cum hypochondriis ferrugineis: abdomine centraliter cum subcaudalibus albidis: subalaribus et axillaribus albis: rostro et pedibus nigris: iride fuscâ.

♀ *ad.* caudâ et supracaudalibus sicut in mare coloratis: capite et corpore aliter griseo-fuscis, subtùs pallidioribus: alis quam in mare sed sordidioribus et minus albo notatis: abdomine centraliter cum subcaudalibus fere albis.

Adult Male (Kandahar, February 2nd). Crown and nape slate-grey, a narrow line at the base of the bill, lores, sides of the head, and ear-coverts deep black; back, rump, and upper tail-coverts bright chestnut; scapulars black, margined with chestnut; quills blackish brown, margined with dull white; primary-coverts white tipped with blackish brown; greater wing-coverts dark brown, slightly tipped with dull white; lesser wing-coverts white; median rectrices dark brown, the rest of the tail bright chestnut, the outermost feather on each side, with the terminal portion of the outer web, brown; chin, throat, breast, and flanks chestnut, the feathers narrowly tipped with dull white; centre of the abdomen and under tail-coverts dull white; under wing-coverts and axillaries white: bill and legs black; iris brown. Total length about 6 inches, culmen 0.5, wing 3.5, tail 2.8, tarsus 0.95.

Adult Male in autumn (Kenderlyk, October 13th). Much duller in general coloration, the feathers on the crown and upper parts obscured by buffy-brown margins, those on the throat, breast, and flanks having also broad buffish-grey margins; quills with broader and buffier margins than in the spring dress.

Adult Female (Eastern Tian-Shan, January 20th). Tail and upper tail-coverts as in the male; rest of the upper parts uniform greyish brown; wings duller than in the male, with much less white on them; underparts pale greyish brown, becoming almost white on the centre of the abdomen and under tail-coverts.

EVERSMANN'S Redstart has a tolerably wide range, having been found from the Ural and Transcaspia to Lake Baikal and South-western Mongolia, and south to Bushire. It has, Professor Menzbier informs me, been met with at least twice in the Western Ural range, on both occasions by Mr. Zarudny, who obtained a very old male in the vicinity of Orenburg on the 10th (22nd) of November, 1881, and a second on the 3rd (15th) November, 1888, near the small village Blagoslovenka. In Transcaspia Dr. Radde and Mr. Walter obtained a female at Keltetschinar on the 4th March, and a male at Kulkulau on the 17th of the same month. At the latter place it was, they say (Vög. Transcasp. p. 56), not rare in the gardens, as also at Germab, and they again observed this species at Duschak on the 30th March, probably on passage. After March they did not meet with it, but believe that it is, to some extent, a winter resident in Transcaspia.

Col. Swinhoe records it as a winter visitant to Southern Afghanistan; and Mr. Blanford says the same with regard to its presence in Persia.

Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 94) states that it is "a winter visitor to every portion of Kashmir, extending on the west to Hazára and Afghanistan, and on to Asia Minor. The most easterly locality from which I have seen a specimen of this bird is Kotokhai in the Himalayas."

Col. Biddulph (Ibis, 1881, p. 62) procured two males in Gilgit in December and January, and says that it appeared to be common in the upper part of the Chitral Valley in November; and Mr. J. Scully writes (*tom. cit.* p. 445) that it is "a winter visitor to Gilgit, and is common at an elevation of 5000 feet from the middle of October to the first week in March." He also states (2nd Yark. Miss. p. 87) that he first observed this Redstart in the Karakash Valley below Sháhídúla; again in small numbers all over the plains of Turkestan during the winter. He also shot one going up to Sarikol, but does not remember ever seeing it in Wakhán or in Yarkand during the summer.

According to Dr. Severtzoff, the present species occurs both in the breeding-season and in winter in Turkestan, breeding at high elevations, and descending to the lowlands during the winter. Mr. Pleske, in his work on the birds obtained by Col. Prjevalsky during his journeys in Mongolia, states that Prjevalsky first met with it on the Lob-nor journey, early in October 1876, on the southern slope of the Tian-Shan, in small numbers in winter in the valleys of the Lower Tarim, and in September 1877 in the Dspair Mountains and on the River Dam. In 1879 he observed the first in Saissansk on the 9th March, and it was seen in tolerable numbers between Saissansk and the Ulungur, and on the central part of the Urungi River. In October 1885 it was met with on the Chotan-Darja, and at the winter stations in the oases of Akssu and Utsch-Turfan it was also seen. It frequents the barberry thickets, feeding on the berries of this shrub in the autumn and winter. It was also obtained by the brothers Grum-Grzimalo at Luktschin-kyr and Tschikty, in the Turfan district.

During the summer it is found as far north as Siberia. Middendorff obtained it at Udskoj-Ostrog; and Dr. Dybowski says (J. f. O. 1872, p. 262) that "it was only observed in Kultuk on passage, and was somewhat rare, arriving early in April, and leaving in the autumn early in September. On their arrival in the spring the small flocks of this species frequent the banks of running streams. They can easily be recognized from afar by their peculiar call-note, which

reminds one of the grunting of a pig. They breed on the rocky mountains above the tree-growth, and late in July we met with fledged young. This Redstart was not observed in the vicinity of Darasun."

Godlewski states (*fide* Tacz. Orn. Sib. Orient. p. 332) that he "met with it only rarely in the Southern Baikal on passage. In spring it arrives in the first half of April, and proceeds for the purposes of nidification to the mountains in the upper portion of the cembra-forest zone. In July we met with fledged young on the Khamardaban Mountain, where they frequented the southern part of the abrupt precipices. In the autumn it passes through the Southern Baikal early in September."

In Alashan and to the south of that district another perfectly distinct species (*Ruticilla alaschanica*, Prjev.) occurs, which has, Col. Prjevalsky says, a range quite distinct from that of the present species. Mr. Seebohm (Cat. B. Brit. Mus. v. p. 348) included *Ruticilla alaschanica* as a synonym of *Ruticilla erythronota*, but subsequently (Ibis, 1882, p. 421) corrected this error, and acknowledged the validity of Prjevalsky's species; and, thanks to the liberality of Mr. Pleske, who has sent me a specimen of *R. alaschanica*, I am able to confirm this correction, for *Ruticilla alaschanica* is easily distinguishable in having the lores and sides of the head blue-grey instead of black as in *R. erythronota*.

I give above all the information I can find on record respecting the habits of the present species; and as regards its nidification, though Dybowski and Godlewski found it breeding in Eastern Siberia, they do not appear to have obtained its eggs, of which I find no description on record.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Chimkent, February 6th, 1866; *b*, ♂. Chimkent, January 18th, 1866 (*Severtzoff*). *c*, ♂. Central Asia (*Verreaux*). *d*, ♂. Eastern Tian-Shan, January 18th, 1875 (*Severtzoff*). *e*, ♂. Tashkend, December 14th, 1874 (*Severtzoff*). *f*, ♀ *ad.* E. Tian-Shan, January 20th, 1875 (*Severtzoff*). *g*, ♂ *ad.* Kandahar, December 1880; *h*, ♂ *ad.* Kandahar, January 2nd, 1881 (*Col. Swinhoe*). *i*, ♂, *k*, ♀. Kenderlyk, Tarbagatai, October 13th and September 13th, 1878 (*Pleske*). *l*, ♂. Saissansk, March (*Prjevalsky*).



J. D. Maclellan del.

Hartnart imp.

PERSIAN ROBIN.
EMINHACUS HYRCANUS

ERITHACUS HYRCANUS.

(PERSIAN REDBREAST.)

Sylvia rubecula (nec Linn.), Ménétr. Cat. Rais. Cauc. p. 35 (1832).

Erythacus rubecula (nec Linn.), De Filippi, Viagg. Pers. p. 347 (1865).

Erithacus hyrcanus, Blanford, Ibis, 1874, p. 79.

Erythacus hyrcanus, id. E. Persia, ii. p. 160, pl. xv. fig. 1 (1876).

Dandalus hyrcanus (Blanf.), Lorenz, Orn. Faun. Kaukas. p. 17 (1887).

Malinowka, Russian ; *Karmurlandsh*, Armenian.

Figura unica.

Blanford, E. Persia, ii. pl. xv. fig. 1.

Ad. E. rubeculae affinis, sed pectore rufo saturatiore, supracaudalibus ferrugineis, fronte rufâ latiore et rostro longiore distinguendus.

Adult (Resht, October). Resembles *E. rubecula*, but the red on the breast and throat is deeper in colour, and the upper tail-coverts are chestnut-brown or dull ferruginous and not olivaceous. Total length about 5 inches, culmen 6·7, wing 3·8, tail 2·35, tarsus 1·05.

Obs. Like our Robin Redbreast, the present species is variable in the tone of colour of the throat and upper breast, and the two specimens in my collection illustrate this very clearly, as the male from Kuban has these parts coloured no darker than in an average British specimen, whereas the female from Resht has them as richly coloured as in any one I have examined from Teneriffe.

THE Persian Redbreast ranges from the Caucasus eastward to Persia. Lorenz obtained it at Kislovodsk in the Northern Caucasus in October ; and according to Dr. G. Radde it is tolerably common in the Caucasus, and breeds amongst the underwood in the deciduous forests of Borshon. It arrives at Tiflis not earlier than the 10th (22nd) March, and ten days later it was common about Borshon and collecting nesting-materials. They arrive earliest of any of the Warblers, and are most zealous songsters. In the lowlands of Lenkoran large numbers remain over winter. During bad weather, and especially when the snow is deep, they forsake the open localities and take to the jungle. A few breed in the gardens of the town. Dr. Radde also met with it in Transcaspia, where it is, he says (Vög. Transcaspiens, p. 54), very common wherever there are gardens or watercourses skirted by bushes or reeds. At Askabad the first arrived in 1886 on the 12th April, and in 1887 on the 15th April, at Sary-jasy on the Murghab. According to Zarudny it is very common in the gardens of the Merv oasis, but rarer in those of the Pindé oasis, and breeds but rarely along the central course of the Murghab and Tedjend. It is, however, common in the mountain villages and in the bushes skirting the mountain-streams, but somewhat rare in the Ahal-Téké plains. In the early part of July they were in full moult.

According to Mr. Blanford, the present species abounds in the forest district near the Caspian, and that probably the Robins obtained by De Filippi from Kend, in the neighbourhood of Tehrán, as well as from Ghilan, belonged to this species; and Sir O. St. John adds that it was found plentifully about Resht, on the shores of the Caspian.

Radde unites this bird with *E. rubecula* and says that he found intermediate forms, and that all one can say is that the Caucasian Redbreast has a tendency to the dark form. It appears to me, however, after a careful examination of specimens, that the Persian Redbreast is a fairly good species, differing constantly in having the upper tail-coverts chestnut instead of olive-brown, the breast darker in tone of colour, and the bill slightly larger than in the Western form. Dr. Koenig has separated the Redbreast of Teneriffe from *Erithacus rubecula* on account of the deeper coloration of the breast and (J. f. O. 1890, p. 383) gave it the name of *Erithacus superbus*. Some time previously Mr. Meade-Waldo had observed that the Teneriffe birds had the breast very rich in tint of colour, and sent me specimens for examination and comparison; but after a careful comparison with specimens from various parts of Europe, I found that several were quite as brightly coloured as the specimens from Teneriffe and differed in no respect from them, and therefore assured him that it could not be looked on as specifically separable, and still hold the same opinion. All that can be said is that, as a rule, the Teneriffe Redbreast has the breast more richly coloured than the average European bird.

In habits, song, and nidification the Persian Redbreast is said not to differ from our Western bird, and the nest and eggs of the two species are similar.

The specimen figured and described is the adult female from Resht in my own collection.

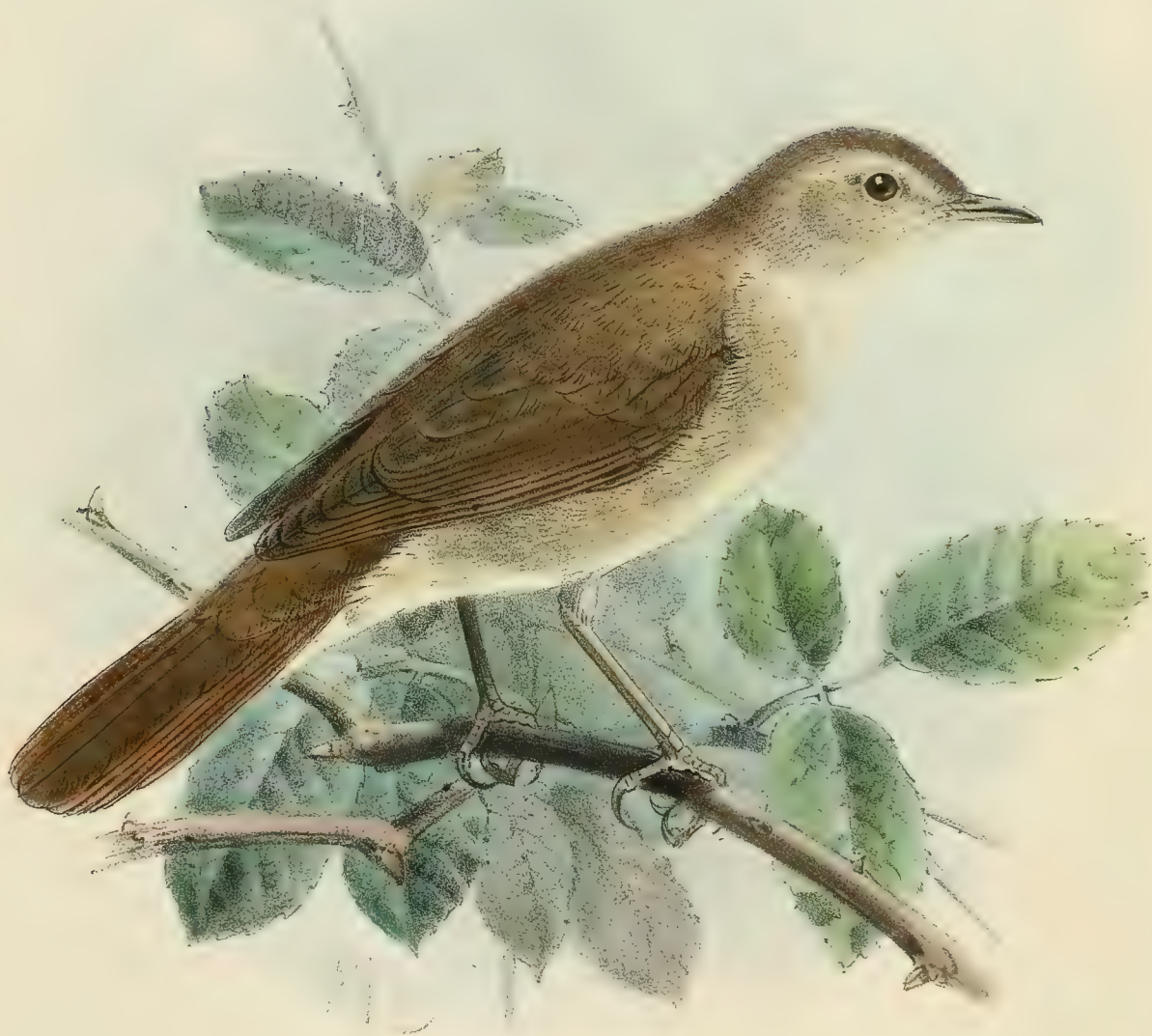
In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Kuban, Caucasus, March 8th, 1891 (*von Tschusi zu Schmidhofen*). *b*, ♀. Resht, on the Caspian, October 1869 (*W. T. Blanford*).

E Mus. Brit.

a. Kultais, Caucasus, January 8th, 1880 (*Michalowski*). *b*, ♂. Resht, Persia (*Sir O. St. John*). *c*, ♂. Fao, Persian Gulf, October 20th, 1886. *d*, *e*. Fao, November 1886 (*Cumming*).



J. G. Keulemans del. et lith.

Miner Bros. imp.

PERSIAN NIGHTINGALE.
DAULIAS HAFIZI.

DAULIAS HAFIZI.

(PERSIAN NIGHTINGALE.)

- Sylvia luscinia* (nec Linn.), Ménétr. Cat. Rais. p. 33 (1832).
Lusciola luscinia (nec Linn.), De Filippi, Viagg. in Persia, p. 347 (1865).
Luscinia major, Blyth, Ibis, 1867, p. 18.
Luscinia hafizi, Severtzoff, Turk. Jevotnie, p. 120 (1873).
Luscinia philomela (nec Bechst.), Severtzoff, Turk. Jevotnie, p. 120 (1873).
Lusciola luscinia, β . *hafizi*, Severtzoff, op. cit. p. 65 (1873).
Lusciola luscinia, γ . *philomela* (nec Bechst.), Severtzoff, op. cit. p. 65 (1873).
Luscinia golzii, Cabanis, Journ. für Orn. 1873, p. 79.
Lusciola golzii (Cab.), Severtzoff, Journ. für Orn. 1873, p. 346.
Daulias hafizi (Severtz.), Blanford, E. Persia, ii. p. 169 (1876).
Lusciola hafizi (Severtz.), Bogdanoff, Ptitsui Kavkaza, p. 99 (1879).
Erithacus golzii (Cab.), Seebohm, Cat. B. Brit. Mus. v. p. 297 (1881).
“*Daulias golzi*, Cab.,” Radde, Orn. Cauc. p. 247 (1884).
Solowei, Russian; *Bulbul*, Persian; *Sanduas*, Tartar; *Sochak*, Armenian.

Figuræ notabiles.

Blanford, E. Persia, ii. pl. x. fig. 2; Radde, Orn. Cauc. pl. xv.

Ad. suprâ rufescenti-fuscus, uropygio magis castaneo-fusco: striâ indistinctè supraoculari cum loris sordidè albidis: corpore subtùs cervino-albido, gulâ et abdomine griseo-albidis: caudâ ferrugineo-fuscâ: rostro saturatè fusco: mandibulâ pallidè corneo-fuscâ: pedibus fuscis: iride saturatè fuscâ.

Adult Male (Lenkoran, March 26th). Upper parts russet-brown, becoming chestnut-brown on the rump; lores and an indistinct stripe over the eye dull white; underparts white with a buff tinge, the throat and abdomen greyish white; tail brownish chestnut: bill dark brown above, the lower mandible pale horn; legs brown; iris dark brown. Total length about 6·5 inches, culmen 0·7, wing 3·3, tail 3·1, tarsus 1·1. Wing with the third and fourth primaries nearly equal and longest, the first very short, being 1·7 shorter than the second, which latter is about equal to the fifth.

Adult Female (Merv). Does not differ from the male in plumage. Culmen 0·68 inch, wing 3·4, tail 3·05, tarsus 1·1.

Obs. The variation in size is not very great, four males in my collection varying as follows:—Culmen 0·7 inch, wing 3·3 to 3·7, tail 3·1 to 3·35, tarsus 1·1, and the one female measures as above. The specimens from Merv are rather paler than the others, and the upper parts have a greyish tinge. The present species can always be distinguished from *Daulias luscinia* by its longer bill and tail, and the rump, upper tail-coverts, and tail are not so deep red in colour, besides which the present species differs in having the lores and a stripe over the eye dull white, which is not the case in *D. luscinia*.

THE present species, the Bulbul of Persian writers, inhabits the Caucasus, Transcaspia, Persia, and Turkestan, and has also been met with in Oudh in India.

Dr. Radde (Orn. Cauc. p. 248) writes as follows:—"From Central Caucasus to the Caspian this species has been met with everywhere, and it breeds to an altitude of 5000 feet. It remains an open question if it is found in the Western Caucasus and on the northern slope of the mountains, as no observations have been made there; but I am convinced that on the Lower Kuban and the east coast of the Black Sea the Sprosser (*Daulias philomela*) occurs chiefly, if not alone. At Lenkoran I heard the first *D. hafizi* on the 16th (28th) April, and they were found chiefly in the town garden and in the underbrush on the outskirts of the forest; I seldom met with them in the jungle. They nest in the town as below stated. It is a common species in the lowlands of Talysch, and from Gilan to Rescht." Dr. Radde also says (Vög. Transcasp. p. 54) that this Nightingale is found throughout Transcaspia wherever there are gardens or water-courses bordered with bushes and reeds, and is extremely common. In 1886 the first arrived at Askabad on the 12th April, and in 1887 on the 15th April at Sary-jasy on the Murghab. Mr. Zarudny (Bull. Soc. Mosc. iii. p. 772) found this Nightingale very common in the gardens in the Merv oasis, but rarer in the Pindé oasis, and it breeds but very seldom in the forests bordering the central course of the Murghab and Tedgend. He also states that he found it very common in the Persian gardens, in the mountain villages, and on the banks of the mountain-streams. On the plain of Abal-Téké he met with it but rarely. In the first half of July they were in full moult. Dr. Severtzoff met with it commonly in Turkestan, where it breeds up to an altitude of about 6000 feet, and it appears to be numerous in Persia.

Mr. Blanford says (E. Pers. ii. p. 170) that "this Nightingale is, of course, the true 'Bulbul' of the East, and is as famous in Persian tales and poetry as its representative is throughout Europe. It abounds throughout the Persian highlands, keeping much to the avenues of Lombardy poplars and other trees which abound in the gardens around all towns and villages. At Karmán it was said by the people to be comparatively scarce, and we were begged not to shoot any; but around Shiraz, Isfahan, and Tehrán Nightingales abound, and I rarely entered a well-wooded garden without hearing their notes. I never heard or saw any further east than Karmán."

The Persian Nightingale has, however, occurred in British India, as, according to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 101), "Two specimens of this rare Nightingale have been procured in Oudh—one in October and the other in November; they are both in the Hume collection."

In habits, song, and mode of nidification the Persian Nightingale differs but little from its European ally, but its song is not so good. Dr. Radde writes (*l. c.*) as follows:—"Early in June when travelling to Rescht I heard it singing at night everywhere; it affects dark places in close thickets, and does not frequent tall trees. The song reminds one of that of the Nightingale, but is greatly inferior; but one finds better and worse songsters amongst them, the latter probably young birds. The song of these latter consists of short strophes, and they and also the old birds utter first the soft flute-like mournful note *hü, hü, hü, hü* four or six times, commencing low and rising in tone and time. In the case of young birds this is often followed only by a quick five- or six-syllabled warble; but in the case of better songsters five or six strophes are continued without interruption, but in these the harsh note is entirely wanting; and the song of the Hafiz

Nightingale may at once be distinguished from those of *D. luscinia* and *D. philomela* by the lack of that note and the strophe-poverty. Otherwise in habits the Hafiz Nightingale resembles the other two Nightingales, and all three agree in their movements on the ground, in their call-note, in the elevation of their feathers when uttering their song with the utmost fervour, and in every other respect."

Mr. Blanford also states (E. Pers. ii. p. 170) that "The song of the Persian Nightingale is said to be considerably inferior to that of our European bird." Mr. Blyth remarks (Ibis, 1867, p. 18) that Persian Nightingales which were brought to Calcutta were larger than *Daulias luscinia*, and scarcely equal to that species as songsters; and Mr. Blanford writes (*l. c.*), "the difference in the Persian Nightingale would scarcely have attracted my notice, but for the distinction in the song, which is certainly shorter and less varied than that of the European bird."

Mr. Zarudny, who found it breeding in Transcaspia, says that in May and early in June he found many nests, which were invariably placed on the ground in shady places in gardens. The number of eggs varied from three to six. On the 23rd July he first observed young birds which had left the nest at Merv, and late in August he saw a few on migration on the banks of the Tchandyr. Dr. Radde also writes (*l. c.*) as follows:—"I procured two nests of this species, which were placed low down in the densest thicket. The material at Lenkoran consists chiefly of dry leaves of *Quercus castanæfolia*. The upper edge of the cup is neatly formed by a twisted rice-straw as shown on my plate xv. The inner wall is constructed of fine grasses and rootlets, and there is no regular lining, but only a few hairs in the interior. The eggs, four in number, are olive greyish-green, resembling those of the Common Nightingale."

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Derbent, May 9th, 1880 (*Dr. G. Radde*). *b*, ♂. Lenkoran, March 26th (*Holst*). *c*, ♂, *d*, ♀. Merv, June 25th (*Prof. M. Menzbier*). *e*, ♂. Kenderlyk, Tarbagatai (*Kolomeitzeff*).

E Mus. Brit.

a. Persia (*Darwin*). *b*, *c*, ♂. Shiraz, Persia, June 1869; *d*. Shiraz (*Sir O. St. John*). *e*. Terai, Oudh, October 1867 (*Hume Collection*).

E Mus. H. Seebohm.

a, ♂. Lenkoran, May 2nd (*Holst*).



J. G. Keulemans del et lith.

Mintern Bros. imp.

1. LEAST WHITETHROAT.
SYLVIA MINUSCULA.
2. HIMALAYAN WHITETHROAT.
SYLVIA ALTHÆA.

SYLVIA MINUSCULA.

(LEAST WHITETHROAT.)

Sylvia minula, Hume, Stray Feath. i. p. 198 (1873).

“*Sylvia minima*, Hume,” Dresser, B. of Eur. i. p. 386 (1876).

Sylvia minuscula, Hume, Stray Feath. viii. p. 103 (1879).

Tint-Konu, *Tuntu*, in Yarkand.

Figuræ notabiles.

Seebohm, Cat. B. Brit. Mus. v. pl. i.; Pleske, Orn. Ross. pl. i. figs. 5, 6, 7.

Ad. S. curruca similis, sed minor: nuchâ et corpore suprâ pallidè fusco-isabellinis.

Adult Male (Baluchistan, February 23rd). Crown pale bluish grey, becoming pale brownish isabelline on the nape; upper parts generally pale brownish isabelline, otherwise closely resembling *S. curruca*. Total length about 5 inches, culmen 0·5, wing 2·4, tail 2·15, tarsus 0·8; second primary intermediate in length between the seventh and eighth.

Adult Female (Sehwan). Undistinguishable from the male in coloration.

Obs. I find that the wing varies from 2·35 to 2·4 inches in length, and the tail from 2·0 to 2·15. In some specimens the second primary is equal in length to the seventh, but most have it intermediate between the seventh and eighth.

WHEN in 1876 I wrote the article, in the ‘Birds of Europe,’ on *Sylvia curruca*, I deemed it expedient to recognize only one species of Lesser Whitethroat as inhabiting Europe and Asia, ranging as far east as China and Dauria. Since then, however, further research has shown that it may be subdivided into four fairly separable geographical forms or species, which have been recognized by all our present leading authorities. These species may be diagnosed as follows:—

1. *Sylvia curruca*. Head bluish grey, back bluish grey tinged with brown; second primary intermediate between the fifth and sixth. Wing 2·5 to 2·6 inches.—*Hab.* Europe, North Africa, ranging east to Asia Minor and Syria.
2. *Sylvia affinis*. Resembles *Sylvia curruca*, but has the second primary intermediate between the sixth and seventh; upper parts browner than in *S. curruca*. Wing 2·45 to 2·65 inches.—*Hab.* Siberia in the summer, southward to India and Ceylon in the winter.
3. *Sylvia althæa*. Upper parts greyish brown, rather darker on the head; outer tail-feathers almost entirely white; second primary intermediate between the sixth and seventh, or equal to the seventh. Wing 2·6 to 2·8 inches.—*Hab.* Transcaspia and Cashmere in the summer, wintering in North-west India and Afghanistan.
4. *Sylvia minuscula*. Crown bluish grey; back sandy brown, much paler than in *S. curruca*; second

primary intermediate between the seventh and eighth, or equal to the seventh. Wing 2·35 to 2·4 inches.—*Hab.* Breeds in Transcaspia, Turkestan, and Afghanistan, and winters in Baluchistan, Sindh, and North-west India.

Of these nos. 1, 3, and 4 occur within the limits of the Western Palæarctic Region; and of the last of these, *Sylvia minuscula*, I will now treat.

According to Mr. Pleske (Ornith. Ross. p. 104) this species has been met with as far west as the eastern shores of the Caspian, where Dr. Lehmann obtained it near the fortress of Novo-Alexandrovsk, on the peninsula of Mangyschlak. Zarudny obtained it in Transcaspia, and records it (Rech. Zool. Transcasp. p. 151) as being one of the commonest Warblers in the oases of the Tedgend and Murghab.

The species recorded by Messrs. Radde and Walter (Vög. Transcasp. p. 52) is doubtless the Least Whitethroat, and not *Sylvia affinis*, as they state that it has the upper parts of the body pale dull greyish brown, the second primary always shorter than the sixth, and the wing 64 mm. and less in length. They obtained specimens on the Tedgend on the 2nd April, at Perevalnaja on the 22nd April, at Molla-kary on the 27th April, and on the 23rd March on the Amu-Darja. In 1887 a large number passed the Amu-Darja on passage on the 25th March, and on the Murghab they were seen on passage up to the 6th and 7th April. In the St. Petersburg Museum there is a large series of specimens obtained by Eversmann and Severtzoff in the valley of the Syr-Darja in Turkestan; Russoff obtained a considerable number at Tschinas (*vide* Pleske, Rev. Turk. Orn. p. 30), and, according to Severtzoff (Ibis, 1883, p. 67), it breeds numerously in the Ferghana Valley.

It is said to breed in Afghanistan, but there does not appear to be any definite information on this point. Dr. Aitchison obtained it at Gulran, Badghis, in March, and Hari-rud in April; Col. Swinhoe at Kandahar in April; and Dr. Scully at Herat in March.

According to Oates (Faun. Brit. Ind., Birds, i. p. 398) it is found throughout Sind, Baháwalpur, and Rajputana, as far east as Jodhpore, as a winter visitor. Dr. Henderson states that it was excessively plentiful in Kashmir, but was never observed after crossing the Zoji-là.

According to Dr. Sharpe (2nd Yarkand Miss. p. 76), Dr. Scully obtained it at Posgam in October, and says that it arrives in the plains of Kashgharia about April, and migrates southwards towards the end of October. It breeds, he says, in May and June.

Numerous specimens were obtained by the brothers Gram-Grzimailo on the Dshirgalty river in the Tian-schan, Ssy-dun, in the Bei-schan Mountains, and Chuan-che; and Mr. Th. Pleske (Orn. Result. Prjev. Reis. ii. p. 80) writes that "On the Lob-nor journey the first arrivals were obtained by Col. Prjevalsky on the 20th March, 1877. Early in April this species appeared in considerable numbers in the wooded Tarim Valley, where it also breeds. On the 16th April, 1879, the first were observed at the Urungu River. It is also common on the Bulugun River, and occurs sparingly in the Southern Altai.

"In the oasis Ssa-tschen but few were met with, though it was common in the lower and central zones of the Nan-schan. In the spring a single example was seen in Wasch-Schari on the 29th March, and a pair on the following day. In the first half of April this Whitethroat was tolerably common on the Tschertschen-Darja, and was found also in the gorges of the

northern ranges of the Russkij Mountains. In the oasis Nija it breeds in considerable numbers.

"The autumn migration began in the second half of August in the Tschira oasis, and during the whole of September and early in October they were not unfrequently seen in the woods on the Chotan-Darja.

"The song of *Sylvia minuscula* is pleasant. It does not rise up in the air with quivering flight during its song.

"In the river-valleys it frequents woods and the dry tamarisk-thickets. The specimen obtained on the Chotan-Darja on the 5th October, 1885, was in full moult."

In habits, song, and mode of nidification this Warbler is said to agree closely with our Lesser Whitethroat. Dr. Stoliczka said (*fide* Sharpe) that on the 18th of May he found a nest in a rose-bush near Ighiz-Yar. On the 31st of May he writes, "This Warbler is very common and breeding. One nest had one, and another three fresh eggs: one had two half-incubated eggs. The nest is in a small bush about ten inches or a foot above the ground, composed entirely of grass, regularly cup-shaped, round, about $1\frac{1}{4}$ inch deep and $1\frac{3}{4}$ in diameter. Outside it consists of moderately coarse grass; inside of finer grass with a little grass-seed film interwoven." Dr. Stoliczka did not describe the eggs, which are said to resemble those of *Sylvia curruca*.

The specimens figured and described are in my own collection.

In the preparation of the above article I have, besides the series in the British Museum, examined the following specimens:—

E Mus. H. E. Dresser.

a, ♀. N.W. of Kotri, Sind, December 17th, 1875; *b*. Upper Sind, March 15th, 1875; *c*. Sind, February 1875; *d*, ♂. Umarhot, Sind, January 23rd, 1876; *e*, ♂. Nansharo district, Sind, January 6th, 1876; *f*, ♂. Balin-Kelat, Baluchistan, February 23rd, 1872 (*W. T. Blanford*). *g*, ♀. Sehwan, Sind, January 20th, 1880 (*W. E. Brooks*).

SYLVIA ALTHÆA.

(HIMALAYAN WHITETHROAT.)

Curruca cinerea (nec Bechst.), Jerdon, Madr. Journ. x. p. 268 (1839).

Sylvia affinis (nec Blyth), id. B. of India, ii. p. 209 (1863).

Sylvia affinis?, Hume, Str. Feathers, i. p. 198 (1873).

Sylvia althæa, id. Str. Feathers, vii. p. 60 (1878).

Sylvia althea, Hume, Seebohm, Cat. B. Brit. Mus. v. p. 20 (1881).

Figura unica.

Pleske, Orn. Ross. pl. i. figs. 1, 2.

Ad. pileo schistaceo, a colore dorsi haud distinguendo : remige primâ tectricum alulæ longiore, secundâ longitudine inter 6^m et 7^m seu 7^æ æquali : alâ 2·6-2·8 poll.

Adult Female (Karzil, July 9th). Upper parts dark bluish grey, the back slightly tinged with brown ; sides of the head like the crown, bluish grey, slightly darker round and below the eye ; wings dark brown, the quills with paler margins ; outer tail-feathers on each side white, except on the basal portion of the inner web, which is blackish brown, rest of the tail blackish brown, except the two central rectrices, which are lighter brown ; underparts white, the flanks washed with grey : bill dark horn, paler at the base ; legs plumbeous brown ; iris light brown. Total length about 4·75 inches, culmen 0·6, wing 2·65, tail 2·4, tarsus 0·85 ; second primary intermediate between the sixth and seventh.

The sexes do not differ in plumage, but the male is generally rather larger in size than the female. The autumn plumage differs in being bluer in tone of colour on the upper parts, and the flanks are washed with a somewhat deeper tinge of grey than in the spring plumage.

THE Himalayan Whitethroat is found during the summer in Transcaspia, Turkestan, and Kashmir, and winters in India, ranging in all probability as far south as Ceylon.

According to Mr. Zarudny (Rech. Zool. Transcasp. p. 151) this Whitethroat is "tolerably common in the eastern portion of the Kopepet-Dagh, and nests in the bush-covered defiles and river-valleys, where it is to be met with as far as the upper part of the juniper zone. It also breeds in the valleys of the Soumbar and Tchandyr.

"It does not willingly leave the mountains for the lowlands, but I obtained one in 1836 near the Douchak Station, and met with it in 1886 and 1889 in the gardens of Askabad.

"As I met with one of these birds on the upper course of the Atek not far from the mouth of the Soumbar in 1886, its breeding-range probably embraces the bush-covered defiles of Déréquez and Kéliat in Persia, and the capture of the specimen at Douchak confirms this."

Mr. Pleske states that it breeds in Transcaspia, Turkestan, and Bokhara ; Col. Biddulph obtained it in Gilgit in May ; and Mr. J. Scully, who met with it in the same locality, says

(Ibis, 1881, p. 450) that it is a summer visitor, and common from the 25th April to the end of September; it breeds at an elevation of about 9000 feet.

Col. Biddulph further states (Ibis, 1882, p. 279) that he possesses specimens from Iskardo and Ladakh; and according to Pleske (Rev. Turk. Orn. p. 30) Russoff obtained three specimens from Urjukle-tau near Saamin, from Kschtut, and from Iskander-kul.

Mr. Oates says (Faun. Brit. Ind., Birds, i. p. 397) it is "a rare winter visitor to the plains of India. It has been obtained at Baháwalpur, Deesa, Jhansi, Ahmednagar, and Belgaum, from all of which places I have examined specimens. It also occurs at Byan Kheyl, in Afghanistan." He also adds that in his opinion the range of *S. althæa* extends to the Carnatic and Ceylon.

In habits the present species is said not to differ from its allies, and doubtless its nest and eggs also resemble those of *Sylvia curruca*, but I find nothing on record respecting its nidification.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♀. Karzil, July 9th (Col. J. Biddulph). *b*, ♀. Khandesh, India, September 16th, 1883 (Davidson).
c, ♀. Artutoch, Turkestan, June 9th, 1892 (Glasunoff).



J. G. Keulemans del et lith.

Mintern Bros. imp.

MÉNÉTRIÉS WARBLER.
SYLVIA MYSTACEA.

SYLVIA MYSTACEA.

(MÉNÉTRIÉS'S WARBLER.)

Sylvia mystacea, Ménétr. Cat. Rais. p. 34 (1832).

Sylvia rubescens, Blanford, Ibis, 1874, p. 77.

Pyrophthalma mystacea (Ménétr.), Severtzoff, Stray Feathers, 1875, p. 428.

Sylvia momus, Dresser, B. of Eur. i. p. 407 (1880, partim).

Sylvia mystacea, Seebohm, Cat. Birds Brit. Mus. v. p. 20 (1881, partim).

Bjeloussyi-Kusnetschik, Russian (*fide* Bogdanoff).

Figuræ notabiles.

Blanford, E. Persia, ii. pl. xii.; Radde, Orn. Cauc. pl. xiii. fig. 1.

♂ *ad.* corpore suprà schistaceo-cinereo : pileo, capitis lateribus cum regione paroticâ sordidè nigris : remigibus nigricantibus, cinereo marginatis : rectricibus nigricantibus, cinereo angustè marginatis, rectrice extimâ utrinque cum pogonio externo albo et albo terminato, secundâ albo apicatâ : mento et lineis duabus longitudinalibus è rostro ad latera descendentibus albis : gulâ pectoreque castaneo-vinaceis : hypochondriis pallidè rufescentibus, corpore reliquo subtùs rosaceo-albo : rostro fusco, mandibulâ ad basin flavidâ : iride castaneâ, marginibus palpebrarum flavis : pedibus pallidè fusco-isabellinis.

♀ *ad.* suprà sordidè fusco-cinerea : subtùs alba, ochraceo tinctâ : remigibus et tectricibus alarum fusco-cinereo marginatis.

Adult Male (Lenkoran, March). Crown, sides of the head, and ear-coverts dull black, gradually merging into the grey of the upper parts, which are slate-grey ; quills blackish brown, margined externally with clear slate-grey ; tail blackish, the feathers narrowly edged with grey, the outermost on each side with the outer web and terminal portion white, the next tipped with white ; chin and a line bordering the black on the sides of the head pure white ; throat and breast pale chestnut-vinous ; flanks pale reddish ; rest of the underparts rosy white ; beak brown, the basal half of the lower mandible yellowish : legs pale brownish isabelline ; iris clear chestnut-red, the bare skin round the eye bright yellow. Total length about 4·75 inches, culmen 0·48, wing 2·35, tail 2·1, tarsus 0·75.

Adult Female (*fide* Pleske). Entire upper parts plain brownish grey, the quills and wing-coverts similarly margined ; underparts white, tinged with pale ochreous.

Nestling (*fide* Pleske). Resembles the female, but the plumage is laxer and softer.

THE summer home of this Warbler appears to be the Transcaspian region, where it is extremely numerous, but it is not as yet known where it winters. Its range, so far as we know, extends from the Caucasus eastward through Transcaspia to Persia, Turkestan, and Northern Afghanistan, but it does not seem to have occurred within the limits of British India.

According to Pleske (Orn. Ross. p. 108) the types of Ménériés's Warbler obtained at Saljany are the specimens procured furthest west in Russia. Radde (Orn. Cauc. p. 243) obtained four at Lenkoran, and remarks that its range only commences in the south-west corner of the Caspian. Ménériés, who remarks that it somewhat resembles *S. subalpina*, met with it in pairs only at Saliane and on the banks of the Kour, and says that it frequented the low bushes, was very restless and difficult to catch sight of, and uttered a low whistle. According to Zarudny (Bull. Soc. Mosc. iii. p. 774), "it is without doubt the commonest of all the Warblers in Transcaspia. It usually frequents the vicinity of small rivers, the banks of which are overgrown with bushes, the plains of the Atek, and the lower spurs of the neighbouring mountains. It is also numerous in the bushes of the valley of Tedgend, and the central portion of the Murghab, where it is scattered over a district of several versts in extent, amongst the tamarisks and saxauls that cover the neighbouring sand-plains. It is rare in summer in the oases of Merv and Pindé, but common amongst the tamarisks along the Alikhanow canal. In the latter part of April and early in May I observed a considerable number on migration in the plains of the oases of Atek and Ahal. The autumn migration begins late in July. Although it ascends into the mountains and breeds in the juniper zone, still its favourite summer-haunts are in the bushes bordering the rivers, and the brooks which run through the low hot plains, and on the ramifications of the mountain-ranges." Dr. Radde also writes (Vög. Transcasp. p. 53) that "this is the commonest of all the Warblers, and is distributed throughout the whole region. We first met with it at Askabad in 1886 on the 22nd March—they arrived in 1887 at the same time on the Amu-Darja, and on the 27th March they were numerous on passage between Merv and the Amu-Darja in the sand-district of Utsch-Adshi, and on the 29th March they were very common at old Merv."

Mr. Blanford remarks (E. Persia, ii. p. 178) that he "only obtained this bird in gardens in the southern and central Persian highlands, where it evidently breeds, for he found young birds both at Shiráz and Ispahán." It occurs in Turkestan; and Mr. Pleske says that he knows of but two specimens from the valley of the Amu-Darja—one, a young bird, obtained by Dr. Severtzoff at Nukuss, and a second from Petro-Alexandrovsk, presented to the St. Petersburg Museum by Mr. Savenkoff. In Turkestan, according to Dr. Severtzoff, it inhabits the lowlands of the Karatau, the western Tjan-schan, the valleys of the Syr-Darja and Säräfschan rivers, as also the steppe between the Säräfschan, the Syr-Darja, and the desert of Kisylkum.

According to Mr. Scully (B. of N. Afghanistan, p. 81) one was obtained at Herat, and another by Captain C. E. Yate at Maimanah, this being the most eastern locality from whence this Warbler has been recorded. There is, I may add, a specimen from Fao, in the Persian Gulf, in the British Museum.

In habits this bird does not appear to differ from its allies. Mr. Blanford remarks that he noted nothing in its habits different from those of its allies; but Mr. Zarudny states that it flits more nimbly than the other Warblers through the dense foliage, and when on the wing carries its tail very high in the air. It is most frequently found in the tamarisk-thickets and in bush-covered localities.

Zarudny was the first to discover the nest and eggs of this Warbler. He obtained three nests, all containing eggs. The nests were placed on bushes close to the ground, and were

constructed externally of tamarisk-twigs, the inner portion of finer twigs, bents, and vegetable down, and the lining was of finer bents, vegetable filaments, and in one instance a few horsehairs. In form, position, and materials the nests bore resemblance to those of the Calamoherpidae rather than of the Sylviidae, but in construction are intermediate between the two. The eggs, he says, are rounded, the ground-colour is brilliant white, in one instance with a rose tinge, finely dotted with blackish-grey, black, or dirty-brown spots, the larger end being so closely spotted that the spots are confluent, and in some the black spots and dots are entirely wanting. In size they varied from 1 cent. 5 mill. by 1 cent. 2 mill. to 1 cent. 7 mill. by 1 cent. 3 mill. On the 17th June fledged young were first seen near Merv, and specimens killed early in August had almost completed their moult.

When I wrote the article on *Sylvia momus* for the 'Birds of Europe,' I had never seen a specimen of this Warbler, and did not believe that it was specifically separable from that species, and Mr. Seebohm also (Cat. B. Brit. Mus. v. p. 21) united these two species; but directly I had an opportunity of comparing specimens I saw that I was wrong in so doing, and in an article published in 1891 (Ibis, 1891, pp. 360-364) rectified the error I had made, and pointed out that the old male of *S. momus* has the crown and nape of a very deep black, the division between the black and the grey of the back being very sharp and clear; the underparts are very white, with the faintest vinous tinge on the abdomen, whereas the old male of the present species has the crown and nape dull black, this colour gradually merging into the grey of the back on the nape; the chin and a line bordering the black (which extends below the eye as in *S. momus*) are pure white; the throat and breast are pale chestnut or dull vinous red, gradually fading on the abdomen to white, the flanks, however, being pale reddish.

The adult male figured and described is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂ *ad.* Lenkoran, March 22nd (*Dr. G. Radde*). *c*, ♂. Tedgend, March 20th, 1886 (*Dr. Radde*).

E Mus. Brit.

a, ♂, *b*, ♀. Shiraz, S. Persia, June 12th (*W. T. Blanford*). *c*, ♂. Afghanistan (*C. E. Yate*). *d*, ♂. Fao, Persian Gulf. *e*, ♂. N. Africa??



J. G. Keulemans del. et lith.

Mintern Bros. imp

DESERT WARBLER.
SYLVIA NANA.

SYLVIA NANA.

(DESERT-WARBLER.)

- Curruca nana*, Hempr. & Ehr. Symb. Phys., Aves, fol. cc (1828).
Salicaria aralensis, Eversm. Bull. Soc. Nat. Mosc. xxiii. part 2, p. 565, tab. viii. fig. 1 (1850).
Stoparola deserti, Loche, Rev. et Mag. Zool. 1858, p. 394, pl. xi. fig. 1.
Sylvia delicatula, Hartl. Ibis, 1859, p. 340, pl. x. fig. 1.
Sylvia doriae, Filippi, Viagg. Persia, p. 348 (1865).
Sylvia nana (Hempr. & Ehr.), Gray, Hand-l. of B. i. p. 212. no. 3010 (1869).
Sylvia chysophthalma, Heugl. Orn. N.O.-Afr. i. p. 306 (1869).
Atraphornis aralensis (Eversm.), Severtzoff, Turk. Jevotn. pp. 65, 124 (1873).
Sylvia aralensis (Eversm.), Prjev. in Rowley's Orn. Misc. ii. p. 170 (1877).
Drymosylvia nana (Hempr. & Ehr.), Menzbier, Orn. Geogr. Europ. Rossii, p. 201 (1882).
Drymosylvia nana, var. *albipennis*, id. ut suprâ.
Bajalyschnitschek, Russ. (*Bogd.*).

Figuræ notabiles.

Eversmann, ut suprâ; Loche, ut suprâ; Hartlaub, ut suprâ.

Ad. corpore suprâ griseo-isabellino, uropygio et supracaudalibus rufescenti-cervinis: remigibus fuscis isabellino marginatis, secundariis intimis rufescenti-cervinis: rectricibus mediis rufescenti-cervinis, rectrice extimâ utrinque albâ, reliquis saturatè fuscis rufescenti-isabellino marginatis et albido apicatis: corpore subtùs albo, hypochondriis cervino lavatis: rostro pallidè corneo: pedibus pallidè fusco-isabellinis: iride pallidè flavâ.

Adult Male (Tolan-chodsha, April). Upper parts greyish isabelline, becoming rufous on the lower rump and upper tail-coverts; quills brownish buff, margined with isabelline, the inner secondaries washed with rufous buff; median rectrices rufous buff, outer rectrix on each side white, the rest dark brown margined with rufous buff, and some tipped with white; underparts white, washed with buff on the flanks: bill pale horn; legs brownish or yellowish isabelline; iris pale yellow. Total length about 45 inches, culmen 0.4, wing 2.5, tail 1.95, tarsus 0.75.

The sexes do not differ in plumage: in the autumn plumage all the colours are brighter, the median tail-feathers are almost rust-red, and the upper parts generally are warm, almost rufescent isabelline. The young bird resembles the adult in autumnal dress, but is even more rufous in tinge, especially on the head, and the underparts are purer white in tinge.

THE Desert-Warbler has a tolerably wide range, having been recorded from Algeria, North-east Africa, the Sinaitic Peninsula, Transcaspia, Persia, Turkestan, North-west India, and eastward to the Chinese province of Alaschan, and it has also occurred as a straggler in European Russia and Italy. In the last-named country it has, according to Professor Giglioli, been once obtained

by Mr. Odoardo Ferraqui, of Cremona, near that city, on the 7th November, 1883. The specimen in question was sent to Professor Giglioli as a variety of *Sylvia subalpina*, but he at once recognized it as *Sylvia nana*, and it has been acquired for the Florence Museum, where it is now deposited.

Professor Menzbier informs me that one was killed by Mr. Zarudny in the Government of Orenburg, in the Bish-Kopa district, on the 10th July, 1883; and Mr. Nazaroff, when in England, told me that he believed that it had been obtained more than once near Orenburg. With regard to its range in Russia, Mr. Pleske says (Orn. Ross. p. 137) that "Mr. Zarudny has chronicled the most western occurrence on Russian territory. He obtained a single example in the Kirghis Steppes at Bisch-Kopa, and as he did not observe any other he considered it to be a straggler. Nazaroff also (Bull. Mosc. ii. p. 371) recorded its occurrence in the same part of the Kirghis Steppes, without, however, giving exact particulars regarding locality, so that it is not improbable that this record may refer to the bird chronicled by Zarudny. Should we, however, look on the above locality as an outpost merely of the range of the present species, we find that it is of not uncommon occurrence in the district bounded in the north-east by the affluents of the Syr-Darja and by the Caspian Sea in the south-west, and extends, therefore, from the Syr-Darja through the desert of Kisyl-Kum, the former khanate of Khiva, to Transcaspia in the south, and the Ust-Urt (or at least its southern portion) in the north. As we now proceed to enumerate single occurrences, we must especially lay stress on the fact that Dr. Severtzoff means by North-western Turkestan, where *Sylvia nana* occurs breeding, Karatau, the western Tian-schan, the sources of the Arys, Keles, and Tschirtschik, and their affluents, and the lower part of the Syr-Darja from the mouth of the Arys. Further towards the east, almost outside this district, two specimens were collected in Kokand, and are now in the British Museum, having been obtained from the Severtzoff collection. Our Museum also possesses a series of specimens collected by Dr. Severtzoff in 1858 and 1859 in various localities along the Syr-Darja, as, for instance, Bischarny, Djerentai, Kultus, on the Kara-kul, and at the springs of Iky-kui and Chudaili. This bird appears to occur on the banks of the Syr-Darja to about 280 versts from its mouth, as Dr. Severtzoff did not record it further to the west than at Karatugai. The original specimen of Eversmann came from Raïm. In the district between Syr- and Amu-Darja, Mag. Nikolski obtained two examples of *Sylvia nana*, one of which he procured only 150 versts south of Kasalinsk. This contradicts, to some extent, Dr. Severtzoff's above-quoted opinion as to its absence on the Syr-Darja west of Karatugai, which is very improbable, as the last 280 versts of the Syr-Darja would scarcely differ so much from the rest of the stream as to form a barrier to the range of a *Sylvia*. Professor M. Bogdanoff records the present species from the desert of Kisyl-kum on both of his journeys to Khiva (in 1873 and 1874). In the district of the Amu-Darja River the occurrences recorded are comparatively numerous. Our Museum possesses a specimen from Petro-Alexandrovsk presented by Mr. Savenkoff. According to Prof. M. Bogdanoff *Sylvia nana* occurs in the valley of the above-named river; and Mr. M. Butleroff met with it by no means uncommonly in the district of Nukus, near the mouth of the Amu-Darja, in the Aral Sea. That this Warbler occurs further west is, however, clear, for Prof. M. Bogdanoff met with it in the deserts west of the Amu-Darja; and Butleroff refers to specimens from Ust-Urt. As far as Transcaspia is concerned, we have only the one record by

Zarudny to the effect that it is numerous in the southern portion of the Kara-kum desert." To the above notes I may add that Dr. Radde brought back ten specimens from his journey in Transcaspia. There, he says, it avoids the mountains, and inhabits the artemisia-covered steppes, being less frequently found in the sand-country. Probably, he adds, stragglers remain over winter in the lowlands, as he procured one at Bal-kuju on the 8th March; but most certainly the major portion are migrants, as in 1887 they saw a large number on migration, when in the sand-country, on the 27th and 28th March. On the 25th April a female was shot at Bala-ischem in which an egg ready for exclusion was found.

Marquis Doria found the present species commonly amongst low bushes in the salt desert near Yezd; but Mr. Blanford only once saw it in Southern Persia, on an open plain with low scattered bushes near Yazdikhást, but he obtained it on two occasions in Balúchistán in rather thick tamarisk-bush.

In India, according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 396), it inhabits "the desert portions of Sind, Baháwalpur, Rajputana, and the southern parts of the Punjab. To the east this Warbler extends as far as Sirsa, Hissar, and Jodhpore. To the north I have not been able to trace it above Baháwalpur. It is probably a resident species in all this tract, for Doig found the young just able to fly in November near the Runn of Cutch."

A young bird was obtained by the brothers Grum-Grzimalo on their journey in Mongolia; and according to Mr. Pleske (*op. cit.*), "On his first journey Prjevalsky records this bird only in Alaschan and on the Lob-nor journey in the steppe portions of the Ili Valley. In the Dzungarei it was only once observed at Dshair, in September 1877. Furthermore, a male was obtained on the 4th April, 1879, on the Bulugun River in the Southern Altai. In the Chami desert and at the foot of the Nan-schan, Prjevalsky found it sparingly, but numerous in the Southern Alaschan. In 1885 it was met with early in May in the desert on the north slope of the Russki Mountains, and in June in the oasis of Keria."

In Africa this Warbler is found as far west as the desert portion of Algeria, and from thence eastward to North-east Africa and Arabia. Dr. A. Koenig has recently met with it in Algeria; and in a letter just received informs me that it "inhabits the southern portions of the Algerian Sahara, and even there is but locally distributed, as it affects only the desert portions amongst the sand-dunes, where the soil is of a deep red or isabelline colour; and in places where the sand is pale in colour, and where the *Limoniastrum gugulianum* plant flourishes, this bird is but rarely seen, nor does it occur in the stony parts of the Sahara; but where hillocks are formed of the reddish sand, and dune succeeds dune, places which are called by the Arabs 'blood-dunes' (*Areg el Dem*), there this Warbler is generally to be met with. These localities are also frequented by the Isabelline Crested Lark (*Galerita isabellina*, Bp.), which is here also a characteristic species. This sand- or dune-desert produces a very rich flora, and here flourish in wild luxuriance many genista-like plants, such as *Retama retem*, Linn., *Caligonum comosum*, L'Hér., *Ephedia alata*, Dene., &c., &c. I first met with this Warbler at El Mouliah, about 50 kilometres south of Tuggurt. I had just taken a nest of *Scotocerca saharae*, and carefully packed the eggs, when I caught sight of a small isabelline bird flitting Warbler-like not far from me, and at once followed it; but it was extremely cautious and shy, flitting from twig to twig as I approached, and it was long before I had a chance to shoot it; but I at last succeeded in so doing, and

directly I picked it up I recognized it to be Loche's *Sylvia deserti*, and had no trouble in identifying it, as it has been so well figured by Loche in the 'Revue et Mag. de Zool.' This bird is essentially a desert-frequenter, and is generally distributed throughout the desert-regions above described; but is nowhere numerous, and is not easily observed owing to its unobtrusive habits. Its song is pleasing, but low-toned and somewhat Whitethroat-like. I have observed the male when greatly excited rise singing in the air, and drop again into the dense bushwood.

"The nest differs considerably from that of all the true *Sylvia*; I found several in the desert thickets, but all were empty, except one, in which I was fortunate enough to find two fresh eggs. The nest resembles that of the Reed-Warbler (*Acrocephalus streperus*), and is of an elongate purse-shape, open, and carefully lined with woollen substances." He does not give me any description of the eggs, which are stated by Loche to be grey with a greenish tinge, covered with pale spots, which are only slightly darker than the ground-colour.

Von Heuglin (Orn. N.O.-Afr. p. 307) met with this bird between the months of October and December on the Somali coast near the harbours of Berbera, Med, Lasgori, and Bender-Quam, where it was not rare, frequenting the lowlands overgrown with desert-grass (halfa) near the shore. Hemprich and Ehrenberg first discovered it near Tor in Arabia Petræa, and subsequently met with it at Djeddah. Dr. Kaiser does not include it in his list of the birds of the peninsula of Sinai; but the Rev. F. K. Holland obtained it at Wady Feiran.

I give above some notes respecting the habits of the present species as observed by Dr. Koenig; and Von Heuglin (*l. c.*) says that he found it frequenting dry and arid localities in dense salt-plain copses, and remarks that in its habits and note it greatly resembled *Drymæca*, and that it was very shy and restless. It flies very swiftly, but not at any great height above the ground, and males may often be seen singing, perched on the top of a grass-stem or on a low acacia-bush or a soda-plant. The song is very powerful, melodious, and rich in tone, and sounds doubly pleasant when heard in the sterile desert.

Severtzoff met with it in the desert districts of Turkestan, where, he says, it inhabited the dry arid localities covered with bushes of *Haloxyton ammodendron* or *Atraphaxis*, where it runs about on the ground and picks up small insects; and in Transcaspia Mr. Zarudny found it sporadically in all parts of the sandy deserts, frequenting the young tamarisk and "djousgoune" woods, and the saxaul bushes, but it avoids the forests composed only of saxaul. It is also common in the clayey plains covered with bushes in the Atek oasis. Near Dorte-Koyou he saw young birds, which had just left the nest, on the 19th May.

Mr. Zarudny, who found it common in the Kara-Koum desert, in the saxaul- and tamarisk-groves, in sandy and argillaceous places, writes (Ois. Contr. Transcasp. p. 43) that "on the 23rd June he found in the sandy country near Kizil-Arvad a nest containing three well-grown young. The nest was placed under the shade of a tamarisk amongst the branches, and in form resembles those of the Calamoherpidae. The principal materials of the nest are the fine green twigs of the tamarisk, those on the outside being finer and softer, and being green it is difficult to see the nest amongst the bush-verdure; mixed with the other materials there is a good deal of vegetable-down, spiders' webs, silk of butterfly-cocoons, and of *Microgaster*, sp.?; the walls of the opening are covered with vegetable filaments, which fall down and form the bed." Col. Prjevalsky described the nest and eggs from Ala-shan; but Mr. Pleske says that it proved

that Prjevalsky was mistaken in his description of them, as they were undoubtedly those of a Chat, probably *Saxicola deserti*. He informed Mr. Pleske that both a Chat and *Sylvia nana* were shot where the nest was taken, and hence the mistake.

Dr. Koenig considers that the Algerian form of this Warbler differs sufficiently from the eastern bird to justify its being treated as a good species, and proposes to call it *Sylvia deserti* (Loche); but in this I do not agree with him. I have examined and compared his specimens with my own series and that in the British Museum, and the difference is merely one of tone of colour, and is so slight that it does not appear to me to be of specific value. They are a trifle more isabelline and rufescent in tone of colour than the average of specimens from Asia, but these vary quite as much *inter se*.

I am indebted to Canon Tristram for the loan of a specimen from Sinai, which agrees closely with some of the paler specimens from Sind, and is greyer than the bird from Algeria. I have only seen two specimens from this latter locality, and it will be necessary to examine a larger series before it can be decided whether this slight difference in coloration is constant; and in the meantime, at least, it appears to me to be advisable to treat this form as not specifically separable from the North-east African and Asiatic birds.

The specimens figured and described are in my own collection, the two former being specimens *b* and *c* in the list below. Unfortunately, when the Plate was drawn no specimen from Algeria was obtainable, or I should have figured it for comparison.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Eastern shores of the Ural, July 8th (*Menzbier*). *b*, ♂. Tolan-chodsha, E. Turkestan, April 1880 (*Pevtzoff*). *c*, ♂. Upper Sind, February 1875 (*W. T. Blanford*). *d*, ♀. N.W. of Kotri, Sind, December 18th, 1875 (*W. T. Blanford*). *e*. N.W. of Sehwan, Sind, February 7th (*W. T. Blanford*).

E Mus. H. B. Tristram.

a. Wady Feiran, Sinai (*Rev. F. K. Holland*). *b*, *c*. India (*Dr. Jerdon*). *d*. Jodpur, January 1878 (*W. E. Brooks*). *e*, ♀. Sind, December 18th, 1875 (*W. T. Blanford*).

E Mus. Dr. A. Koenig.

a, ♂. El Mouliah, Algeria, April 1st, 1893; *b*, ♀. Djelfana, Algeria, April 18th, 1893 (*Dr. Koenig*). *c*, ♂. Askabad, August 7th.



J. G. Keulemans del. et lith.

TRISTRAMS WARBLER.
MELIZOPHILUS DESERTICOLUS.

Minuart Bros. imp.

MELIZOPHILUS DESERTICOLA.

(TRISTRAM'S WARBLER.)

Sylvia deserticola, Tristram, Ibis, 1859, p. 58.

Sylvia nana, Heugl. Orn. N.O.-Afr. i. p. 307 (1869) (partim).

Figura unica.

Seebohm, Cat. Birds Brit. Mus. v. pl. iii.

♂ *ad. ptil. æst.* Pileo, capitis lateribus, collo, nuchâ et corpore suprâ plumbeo-cinereis, uropygio cervino-fusco lavato: alis nigricantibus, plumis rufescenti-cervino marginatis: rectricibus externis albis ad basin nigro-fuscis, reliquis nigro-fuscis, fusco-cervino marginatis: mento, gulâ et corpore subtùs pallidè ferrugineo-castaneis, abdomine medio albido, lineâ indistinctâ mystacali et parte ad basin mandibulæ albis: ciliis oculorum albis: mandibulâ superiore pallidè fuscâ, inferiore citrinâ: pedibus pallidè citrinis: iride flavissimâ.

♀ *ad. ptil. æst.* Mari similis, sed coloribus pallidioribus et sordidioribus.

♂ *ad. ptil. hiem.* Pileo, capitis lateribus, collo et corpore suprâ plumbeis, rufescenti-fusco lavatis: corpore subtùs cinnamomescenti-albo: mento, gulâ et hypochondriis rufescenti lavatis: alis magis rufescenti-cervino marginatis.

♀ *ad. ptil. hiem.* Omnino pallidior, corpore subtùs magis albo.

Adult Male (near Batna, May 15th). Crown, sides of the head and neck, nape, and upper parts generally ashy plumbeous, the rump washed with sandy buff; wings blackish, the quills and coverts broadly margined with rufous buff; external tail-feathers blackish brown at the base, but otherwise white, the remaining tail-feathers blackish brown with brown margins to the feathers; underparts pale chestnut, the middle of the abdomen whitish, and a somewhat indistinct white line crosses the chin and borders the plumbeous ash on the sides of the head: iris bright yellow; upper mandible light brown, lower mandible bright yellow; legs pale lemon-yellow. Total length about 4·5 inches, culmen 0·45, wing 2·10, tail 2·20, tarsus 0·75.

Adult Female (Lambessa, Algeria, April 30th). Differs from the male above described only in being paler in coloration, especially on the underparts.

Adult Male in winter (Wed Nçâ, December 15th: type). Differs from the male in summer dress in having the upper parts washed with sandy buff, the rufous margins on the quills and wing-coverts are broader, and the underparts are much paler, being cinnamon-white tinged with rufous on the chin, throat, and flanks.

Adult Female in winter (Algeria, December 23rd). Differs but slightly from the male, being, if anything, slightly paler in coloration.

Obs. The specimen in the British Museum is the palest I have examined, and may very possibly be a bird of the year; in the plate, in the British Museum 'Catalogue,' of this bird the iris is given as blackish

brown instead of bright yellow, and the legs pale brown instead of pale lemon-yellow. The variation in size is but slight, as will be seen from the following table of measurements of the specimens I have examined, viz. :—

		Culmen.	Wing.	Tail.	Tarsus.
		in.	in.	in.	in.
Mus. H. E. Dresser.	Spec. <i>a</i> . .	0·45	2·1	2·2	0·75
„ Tristram.	„ <i>a</i> . .	0·47	2·1	2·25	0·75
„ „	„ <i>b</i> . .	0·45	2·15	2·25	0·75
„ Brit.	„ <i>a</i> . .	0·46	2·1	2·2	0·75
„ Seebohm.	„ <i>a</i> . .	0·45	2·12	2·2	0·75
„ Rothschild.	„ <i>a</i> . .	0·45	2·12	2·28	0·72

WHEN, in 1880, I published the article on the present species in the ‘Birds of Europe,’ the information I had been able to procure was meagre to a degree, but since then further research has added considerably to our knowledge respecting its range and habits, and specimens in breeding-plumage have been obtained, so that I have had an opportunity of examining a fair number of skins, and have satisfied myself that it is much more closely allied to *Melizophilus* than to true *Sylvia*, and I have therefore decided to refer it to that genus. Until 1882 the only specimens known were the three in winter plumage obtained by Canon Tristram in 1856; in that year Messrs. Elwes and Dixon met with it in the Aurès range, but mistaking it for *Sylvia conspicillata*, they only brought back a single specimen. According to Mr. Dixon (*Ibis*, 1882, p. 565), “Tristram’s Warbler was in certain districts the commonest Warbler we met with. Wherever there was vegetation sufficient to afford it shelter it was to be seen. It is a wary little bird, yet far from being shy; and its charmingly clear and musical song gives life to many otherwise dreary solitudes. We found it exceedingly common in the evergreen-oak scrub in the country round Lambessa, and between that place and Oued Taga. It was also to be seen in the range of hills west of Batna, amongst scrub which our *S. provincialis* would select for a haunt. This delicate little bird was much like a Dartford Warbler in habits, but much more trustful. It would frequently explore the bushes a few feet from where I standing, daintily hopping from twig to twig, every now and then pausing to utter its sweet little song. When alarmed it would immediately take to the shelter of the deepest undergrowth, reappearing again a few yards away to hop about as unconcernedly as before. When wounded, this little species will try and conceal itself in holes and under leaves.”

Ten years later Dr. A. Koenig again met with it in the same locality as Messrs. Elwes and Dixon, and to him I am indebted for the male bird in breeding-plumage, and also for the following notes :—“The range of this rare Warbler appears to be very restricted. Canon Tristram obtained the first three specimens in the Southern Algerian Sahara in winter on passage, but in spite of the most careful researches I did not find it there in the spring months, though I met with it at Batna in the Aurès Mountains, and on its spurs, where it breeds. Dixon first met with it there, and published some excellent notes on it, but mistaking it for *Sylvia conspicillata*, only brought back a single specimen. It bears, however, comparatively little resemblance to that Warbler, but is much more closely allied to the Dartford Warbler. During the breeding-season it inhabits the localities where the Maquis vegetation flourishes, and it enlivens these places to a high degree. This vegetation is common and characteristic throughout the entire Mediterranean

region and extends far into the Atlas range; but one cannot but remark that it is not everywhere similarly represented, for, though deep in the mountains it retains, on the whole, the same character, yet the general appearance is somewhat different, as, for instance, in the Aurès range, where one misses the dark green closely foliated bushes, glossed with brown, of *Pistacea lentiscus*, which is one of the predominant representatives of the Maquis growth in the Mediterranean subregion, and is a characteristic both as regards form and colour of the general vegetation. With the disappearance of this bush the general tone of the vegetation alters, and the precipices are so covered with evergreen-oak (*Quercus ilex*) that this becomes the characteristic growth, and thus takes the place of *Pistacea lentiscus*. These oaks are scarcely higher than the bushes, and grow at short distances from each other, and between are rank masses of rosemary, thyme, and lavender, which diffuse their rich aroma far and wide, white and red cistus, junipers covered with reddish-brown berries, various brooms with their golden-yellow flowers, *Phylleria angustifolia*, and other plants of various sorts. Here and there stand beautiful Aleppo pines (*Pinus halepensis*), with their long yellowish spines towering above the flowering plants and bushes.

“These localities are selected by Tristram’s Warbler for its summer home, and here these birds may be seen almost everywhere. In the pairing-season the males, which appear to greatly outnumber the females, become jealous and quarrelsome to a degree, and those who desire to secure a mate can only succeed after many a severe struggle with his rivals. In the early morning one may be seen perched on the topmost twig of a bush, uttering, with distended throat, its sweet and pleasing song, which is made up of a series of prolonged musical strophes which sound clear and loud in the fresh morning air.

“In a somewhat crouched position with puffed-out plumage and drooping wings, the tail being constantly jerked from side to side, it will boldly attack any rival that may approach, and then a battle royal ensues, which often lasts for hours until one succeeds in driving off its rival, and takes possession of the female. To an ornithologist it is a most interesting sight to watch these males, which may often be approached quite close, as they flit from bush to bush, and then disappear amongst the dense foliage, the victor reappearing, and, perched on the topmost branch of some bush, sounds its clear pæan of triumph; the beaten rival may also be heard further off uttering its call, as if afraid to approach nearer to its more fortunate rival. I have also seen the victorious male rise singing in the air, and circling downwards regain its former perch. It is certainly one of the most striking and interesting of the southern Warblers, and appears to me to bear a much closer affinity to the Dartford Warbler than to any of the Whitethroats or their allies.”

Dr. Koenig has been fortunate enough to discover the hitherto unknown nest and eggs of Tristram’s Warbler, and writes to me respecting its nidification as follows:—“I need scarcely assure you that I used every endeavour to find the hitherto unknown nest of this bird. In 1892 an Arab boy showed me a nest which I found to be that of this Warbler, but from which the eggs had, unfortunately, been taken. It was placed on the ground between last year’s shoots of an ilex, and was lined with soft plants. In the hope that the female would perhaps return and deposit eggs in the nest I left it, but when I returned I did not succeed in finding it again. I was more fortunate in 1893, as on my first expedition to the pine-woods, on the 13th of May, I was taken by a Bedouin lad to a nest of this Warbler, which was placed in a rosemary bush

close to the ground, and contained three eggs. Two days later we found near the same place a second nest with a full clutch of four eggs, and on the 22nd May I found a nest containing four fledglings, which, directly we approached, flew out of the nest; but we secured three of them and obtained both the parent birds, which had food in their bills. This nest was also placed just above the ground in a dense rosemary bush. From this I may take it for granted that Tristram's Warbler usually places its nest in a dense rosemary bush close to the ground. The rosemary appears to be a growth that is especially suitable to the present species, as it affects such places where it is found in abundance. Besides the tangled thickets made by this plant, which are so suitable for the nidification of this Warbler, it produces early in the spring, together with the thyme and lavender, an abundance of blossom, whose perfume attracts a variety of insects which form a staple food to this bird, and which also serve as food for its young. The nest is closely and firmly constructed, although it resembles those of the White-throats. The materials used are soft vegetable-bents and fibres, and the average measurements are: circumference 32.5 cm., diameter 10 cm., height 5.3 cm., diameter of cup 5.5 cm., depth 3 cm. The full number of eggs appears to be four; they are somewhat short in proportion to their width, without gloss, and spotted and dotted with olivaceous on a pale green ground, in character approaching to those of the Whitethroats, but perhaps most nearly resembling those of the Dartford Warbler. In size they average 16 by 13 millimetres, and in weight 0.08 gr."

The specimens figured are the adult male in breeding-plumage above described, which is in my own collection, and the female in winter dress in the collection of Canon Tristram, which is one of the types of the species. I may here remark that in the 'Birds of Europe' I inadvertently entered the female above described as being in the collection of Mr. Seebohm instead of that of Canon Tristram, whereas the male from Oued Soudan, entered as being in the collection of Canon Tristram, really belonged to Mr. Seebohm, and is now in the British Museum.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Near Batna, Algeria, May 15th, 1893 (*Dr. A. Koenig*).

E Mus. Brit.

a, ♂. Oued Soudan, Algeria, November 29th, 1856 (*H. B. Tristram*).

E Mus. H. B. Tristram.

a, ♂ *ad.* Wed Nça, Algeria, December 15th, 1856; *b*, ♀ *ad.* Desert between Hadjira and Blad-el-Amar, Algeria, December 23rd, 1856 (*H. B. T.*: types of the species).

E Mus. H. Seebohm.

a, ♀ *ad.* Lambessa, Algeria, April 30th, 1882 (*Dixon*).

E Mus. W. Rothschild.

a, ♂ *ad.* Batna, Algeria, May 22nd, 1893 (*Dr. A. Koenig*).

PHYLLOSCOPUS PROREGULUS.

(PALLAS'S WILLOW-WARBLER.)

- Motacilla proregulus*, Pallas, Zoogr. Ross.-As. i. p. 499 (1811).
Regulus modestus, Gould, B. of Eur. ii. p. 149 (1837, partim).
Regulus proregulus (Pall.), Keys. & Blas. Wirbelth. Eur. p. 184 (1840).
Abornis chloronotus, Hodgs. MS. Drawings of B. of Nepal, Passeres, pl. 57. fig. 5, no. 839.
Abornis chloronopus, Hodgs. in Gray's Zool. Misc. p. 82. no. 839 (1844).
Regulus chloronotus (Hodgs.), Gray, Gen. of B. i. p. 175 (1848).
Reguloides chloronotus (Hodgs.), Blyth, Cat. B. Mus. As. Soc. p. 184 (1849).
Phyllobasileus proregulus (Pall.), Cab. Mus. Hein. i. p. 33 (1850).
Phyllobasileus chloronotus (Hodgs.), Cabanis, Journ. f. Orn. 1853, p. 96.
Sylvia (Phyllopneuste) proregulus (Pall.), Midd. Sib. Reise, Vög. p. 183 (1853, partim).
Phylloscopus proregulus (Pall.), Blyth, Journ. As. Soc. Beng. 1854, p. 498.
Reguloides proregulus (Pall.), Swinhoe, Ibis, 1860, p. 54.
Sylvia (Phyllopneuste) superciliosa (Gmel.), Radde, Reise Süd. Ost-Sibir. ii. p. 264 (1863, partim).
Sylvia proregulus (Pall.), Finsch, Journ. für Orn. 1863, p. 30.
Phyllopneuste (Phyllobasileus) proregulus (Pall.), Homeyer, Journ. f. Orn. 1872, p. 208.
Phyllobasileus proregulus (Pall.), Bolau, Journ. für Orn. 1880, p. 116.
Phylloscopus newtoni, Gätke, Ibis, 1889, p. 579.

Figuræ notabiles.

Gould, B. of Eur. ii. pl. 149; Fritsch, Vög. Eur. Taf. xix. fig. 3.

Ad. corpore suprâ viridi-olivaceo, capite saturiore: fronte, striâ pilei ad nucham ductâ, et striis superciliari-bus sulphureis: loris et striâ per oculos ductâ fusco-olivaceis: uropygio flavo: caudâ et alis saturatè fuscis, plumis extûs viridi-flavo marginatis: alis cum duabus fasciis flavidis notatis: corpore subtûs albo lateraliter vix griseo tincto: abdomine imo lateraliter et subcaudalibus pallidè sulphureo tinctis.

Adult (Kultuk, September 12th). Upper parts olive-green, the upper tail-coverts rather paler; rump bright yellow; crown darker than the back; forehead, a median line extending to the nape, and a tolerably broad superciliary stripe over each eye sulphur-yellow; lores and a broad line bordering the superciliary stripe dark brown; wings and tail dark brown, the feathers externally margined with yellowish green; the wings crossed by two distinct yellowish-white bars; underparts white, tinged with grey on the flanks, and very faintly with pale sulphur on the lower flanks and under tail-coverts: bill dark brown, the base of the lower mandible yellowish; legs greenish brown; soles yellowish green; iris dark brown. Total length about 3·5 inches, culmen 0·4, wing 2·1, tail 1·5, tarsus 0·67: first primary 0·7 shorter than the second, which is equal to or a trifle longer than the eighth; third and fifth equal; the fourth a trifle longer, this being the longest.

The spring plumage is a trifle duller than the autumnal dress above described. In the summer the plumage

becomes abraded and paler, and the alar bands are less clearly defined. The winter dress does not differ from that worn in the autumn. The female does not differ from the male, except that it is somewhat smaller in size.

According to Pleske, in the nestling plumage the upper parts are tinged with brown, the band on the rump is indistinct, and the throat and breast are tinged with mouse-grey.

PALLAS'S Willow-Warbler appears not only as a straggler, but regularly on migration within the Western Palæarctic Region. It is known to occur from the Ural range to Eastern Siberia, breeding in the latter country, and migrates south in the autumn, wintering probably in Southern China and India. It has been obtained as far west as Heligoland, where, Mr. Gätke says (Vogelw. von Helgoland, p. 304), one was killed by Aeuckens in October 1845, and another seen, but not obtained, in October 1875.

Mr. Pleske writes respecting its range in Russia (Orn. Ross. p. 316) as follows:—"Mr. Zarudny gives the following particulars of its occurrence in the vicinity of Orenburg: 'In the autumn of 1887 I again obtained this species (I obtained one in each of the years 1879 and 1884) near Orenburg, under circumstances that would lead me to surmise that a migration had taken place. On the 3rd October a pair were observed in the Protopopen grove, and on the 4th October a flock of about 15 individuals, with which were several Goldcrests; one was also observed in a flock of *Parus ater*. To judge from the characteristic call-note, this bird was observed earlier, between the 28th September and 4th October, in the woods on the other side of the Ural. In 1888 it again appeared near Orenburg, though in smaller numbers. On the 3rd October one was obtained in the woods on the other side of the Ural, and on the 23rd October again one out of a flock of five at the village of Neshenka.'

"One of the above-cited specimens in full autumn plumage was sent to me by Mr. Zarudny, and is the specimen above described. In West Siberia this Warbler has not been observed; but is, according to Taczanowski, not uncommon throughout East Siberia. The most westerly records, from the Wercholenksischen district, on the Upper and Central Lena, and on the Witim, are those of Poljakoff, and later of Sperk; but these do not carry much weight, as they may refer, to some extent or entirely, to *P. superciliosus*.

"The references to its occurrence near Lake Baikal are tolerably numerous. Schwedoff observed it on passage in the public gardens at Irkutsk and on the banks of the Uschakovka, about 40 versts from that town, and his identifications have been verified by Dr. Severtzoff. According to Dybowski it is not rare at Kultuk, but does not appear to breed there, as nests were only found at Petrovsk, beyond Lake Baikal, on the left bank of the Sselenga; a specimen obtained by him is in the British Museum. Mr. Molleson records this Warbler on passage from near the town of Troitzkossavsk, opposite Kjachta, late in August 1885, and Pallas's original specimen came from the Ingoda River in Transbaikalia. Dr. Dybowski records it from the mineral springs of Darasun; and Dr. Radde observed it on the Tarei-nor near the frontier station Kulussutajefskoje, but confused it with *P. superciliosus*. Not far from here is the frontier station Tsuruchaitui, where Dr. Dybowski met with it. We must also refer to the records of von Middendorff from the Stanowoi Mountains and from the Ussuri country. As, however, von Middendorff did not separate these two Siberian Willow-Warblers, I must refer

only to his two undoubted specimens of *P. proregulus*. These came from the Stanowoi Mountains—one from the Ssalurnai River, and the other from Markul. With regard to the occurrence of this bird in the southern Ussuri country, Mr. Maximoviez obtained the most northerly recorded specimen at Stanitz Busse. Prjevalski records it as tolerably common in the vicinity of Lake Chanka, though it is not included in his account of his journey, because he mistook the only specimen he brought back for *P. superciliosus*. Dorries sent specimens to Europe from the station of Baranovskij, in the Ssuifun Valley; and Mr. Poljakoff from the mouth of the Retschnoje River. Finally, the brothers Dorries and Mr. Jankovski record this species from the Island of Askold."

Pallas's Willow-Warbler breeds also in the Himalayas at considerable altitudes; and Capt. Cock took several nests with eggs at Sonamerg in Kashmir; Col. Biddulph records it from Gilgit in January; and, according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 408), "it is distributed throughout the Himalayas from Hazára and Kashmir to Bhutan, and also occurs, probably only as a winter visitor, in the Khási and Nága Hills, in Manipur, and in the Salween district of Tenasserim, among the pine-forests. It occasionally descends to such low levels as the Dehra Doon."

According to Abbé David (Ois. Chine, p. 275) it frequently passes the winter in Central and Southern China; and Mr. Styan (Ibis, 1891, p. 339), in his article on the birds of the Lower Yangtse Basin, says that it "begins to arrive early in March, and soon after its sweet and powerful song is heard throughout the day from the tops of the bamboos and firs; its call-note is a loud Canary-like *hweet*. Most of them pass on by the middle of April; in October they reappear, and I have obtained one at Kiukiang as late as December."

According to Mr. Gätke (Ibis, 1889, p. 578) there are differences between the northern form which breeds in Siberia, and the southern form, which breeds in the Himalayas, sufficient, in his opinion, to justify their being separated, at least subspecifically, and he proposed to give the latter the name of *Phylloscopus newtoni*. The differences between the two forms, as given by Mr. Gätke (*l. c.*), are as follows:—"The Siberian bird differs from that of India in general colour of plumage, which in the former is suffused with a bright lemon-yellow, approaching and partly surpassing that of *P. sibilatrix*, whereas the colour of the latter consists entirely of a dull brownish olive-yellow, verging in *P. humei*, in many instances, towards ashy grey. . . . In the Siberian bird the 2nd quill is of equal length with the 8th, in the Indian bird with the 10th; in the former bird the 2nd quill is only 9 millim. shorter than the point of the closed wing, in the latter this difference amounts to 10 millim.; and whilst in the Indian bird the 2nd quill is of equal length with the longest of the three posterior quills, it is in the Siberian from 6 to 7 millim. longer. Further, in the Siberian bird the 3rd, 4th, and 5th quills are of equal length and form the point of the closed wing, whereas in the Indian one such is the case with the 4th, 5th, and 6th quills, the third being 3 millim. shorter than these."

So far as I can judge from the specimens I have examined, the differences between the northern and southern forms are so slight, and the individual variations are so frequent, that I cannot support Mr. Gätke's views, and do not, therefore, separate the species. Specimens from India in my collection do not differ in general coloration from the Siberian bird, and in some of the former the second quill equals the eighth, in others it is intermediate between the eighth and

ninth, and in one only equal to the ninth. In several the fourth and fifth primaries are equal and the longest, whereas in others the third and fifth are equal, the fourth being a trifle longer; whereas in my Siberian bird the third and fifth are equal, and the fourth a trifle longer. I have only had an opportunity of examining two Siberian specimens, which is not sufficient to decide the question; but inasmuch as Mr. Pleske, who has examined both Indian and Siberian examples, does not separate the two forms, I think that it is tolerably safe to unite them.

Although the present species cannot well be separated generically from the *Phylloscopi*, yet in its general habits it approaches nearer to the Kinglets than the other members of the genus. Dr. Taczanowski remarks that "in habits, mode of life, and nidification this bird shows affinity to our species of *Regulus*; whereas *P. superciliosus*, which has been placed by many ornithologists in the same genus with this species, is a true Willow-Wren."

It frequents pine-woods and those of mixed pine and birch in hilly districts, sometimes ranging in the mountains as high as the border of tree-growth, and it is also to be met with in the bush-covered valleys. Godlevski says that its call-note, which is seldom repeated, may be rendered as *tsii*, shriller and more prolonged than the call-note of *P. superciliosus*, and the song of the male, which is continued for hours without intermission, is melodious and varied and of a very high order. Dr. Dybowski also writes (J. f. O. 1872, p. 361) that "its note is melodious and powerful, and its song varied and sweet, and so loud that it rings through the forest, and is astonishing as coming from so small a bird." Mr. W. E. Brooks, who has had frequent opportunities of hearing the call-note of this Warbler, says (Ibis, 1869, p. 236) that "it is very different from that of *P. superciliosus*, and is extremely shrill, feeble, and tinkling. There are two notes in the call, the second considerably above the first, D to F sharp; and in uttering its call the bird keeps the two notes quite distinct, and not slurred into each other, like the call of *P. superciliosus*."

Referring to the nidification of the present species in Eastern Siberia, Dr. Dybowski writes (J. f. O. 1872, p. 361) as follows:—"Although not uncommon, we did not find its nests in Kultuk, but found them in Petrovsk, beyond the Baikal, on the left bank of the Selenga River. The nests were placed on young pines or old moss-covered cedars on the branches near the stem, three to four metres high, and were neatly constructed of fine grass-bents and green moss, oven-shaped, the opening being towards the trunk of the tree, and lined with feathers and horse- or cattle-hair; the nest is also higher than it is broad. About the middle of June the female lays five or six eggs, and commences sitting directly the first egg is laid, so that in the same clutch one finds quite fresh as well as incubated eggs. The female sits close, and can easily be caught on the nest. While she is sitting the male perches on the top of a tree and sings incessantly. The eggs are white, with dots and small spots of violet, ash-grey, and red, which are chiefly collected so as to form a not very close wreath round the larger end, and measure from 14 by 11 to 15 by 10·5 millimetres, being broadest in the middle."

Captain Cock, who found it breeding at Sonamerg, four marches up the valley of the Sind River, late in May and early in June, says that its nest is placed on the outer end of the branch of a fir tree at from 6 to 40 feet elevation, and sometimes on a small sapling pine where the junction of the bough with the stem takes place. The nest is partially domed, the outer portion consisting of moss and lichen, so arranged as to harmonize with the bough on which it is placed, and lined

with feathers and thin birch-bark strips, never with hair; and the eggs, five in number, are pure white, richly marked with dark brownish red, particularly at the larger end, forming there a fine zone on most of the eggs, and intermingled with these spots, and especially on the zone, are some spots and blotches of deep purple-grey. In size the eggs vary from .53 by .43 to .55 by .44 inch.

I may here observe that the eggs were figured in the 'Journal für Ornithologie' (1873, plate i. fig. 10).

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a. Kultuk, Siberia, September 12th, 1870 (*Dr. Dybowski*). *b, c*, ♂. Darjeeling, December; *d*, ♂. Darjeeling, October 27th, 1879; *e, f*, ♂. Kurseong, December 10th and 11th, 1879 (*W. E. Brooks*).



J. G. Keulemans del. et lith.

Mintern Bros. imp.

1. PLAIN WILLOW WARBLER.
PHYLLOSCOPUS NEGLECTUS.
2. PALLAS'S WILLOW WARBLER.
PHYLLOSCOPUS PROREGULUS.

PHYLLOSCOPUS NEGLECTUS.

(PLAIN WILLOW-WARBLER.)

Phylloscopus brevirostris (nec Strickl.), Brooks, Ibis, 1869, p. 236.

Phylloscopus neglectus, Hume, Ibis, 1870, p. 143.

Phyllopseuste neglectus, Hume, Stray Feathers, i. p. 195 (1873).

Phylloscopus sindianus, Brooks, Str. Feath. viii. p. 476 (1879).

Luscinola neglecta (Hume), Seebohm, Ibis, 1880, p. 277.

“*Phyllopseuste neglectus*, Hume,” Seebohm, Cat. B. Brit. Mus. v. p. 131 (1881).

“*Phyllopseuste lorenzi*, Severtz.,” Lorenz, Beitr. Orn. Nords. Kaukasus, p. 28. no. 87 (1887).

Herbivocula (*Phylloscopus*) *neglecta* (Hume), Radde & Walter, Vög. Transcasp. p. 49 (1888).

Luscinola (*Herbivocula*) *neglecta* (Hume), Pleske, Ornithogr. Ross. ii. p. 412 (1890).

Herbivocula neglecta (Hume), Pleske, tom. cit. p. 414 (1890).

Figuræ notabiles.

Pleske, Ornithogr. Ross. pl. iii. figs. 3 & 4 ; Lorenz, op. cit. Taf. ii. fig. 2.

Ad. corpore suprâ brunnescenti-cinereo, subtùs albido cervino lavato : striâ superciliari pallidè cervinâ et regione paroticâ sordidè cervinâ : remigibus et rectricibus fuscis, extùs pallidiore marginatis : subalaribus et axillaribus albidis, flavido cervino tinctis : rostro, pedibus et iride saturatè fuscis.

Adult Male (Schwan, January 27th). Upper parts earthy brown, rather paler on the upper tail-coverts ; underparts white, with a buff tinge ; a narrow superciliary streak pale buff ; ear-coverts dull buff ; wings and tail brown, the feathers with paler external margins ; axillaries and under wing-coverts white, with a buffy yellow tinge : bill, legs, and iris dark brown. Total length about 4 inches, culmen 0·37, wing 2·05, tail 1·65, tarsus 0·75 ; first primary 0·65 less than the second, which is intermediate between the eighth and ninth, or only just longer than the eighth.

Adult Female (Kopepet-dagh, Transcaspia, July 27th). Resembles the male except that the plumage is a trifle paler, but is smaller in size, measuring : culmen 0·35 inch, wing 1·9, tail 1·6, tarsus 0·7.

The average measurements of the series I have examined are :—males : wing 1·95 to 2·1 inches, first primary 0·65 to 0·75 less than the second ; females : wing 1·9 to 2·0 inches, first primary 0·6 to 0·7 shorter than the second ; and in all the second primary is either equal in length to the eighth or intermediate between the eighth and ninth.

THE present species is found during the summer in Transcaspia and Turkestan, and winters in Southern Persia, Baluchistan, Sind, and North-western India.

Mr. Seebohm (Ibis, 1876, p. 218) stated that he met with it on the Lower Petchora ; but, as Mr. Brooks (*tom. cit.* p. 503) points out, Mr. Seebohm's identification was erroneous, and the

bird he obtained was merely an under-coloured example of *Phylloscopus tristis*. I am indebted to Dr. Radde for specimens from Transcaspia, where, he says (*l. c.*), "This Warbler is common amongst the elevated junipers in the mountains where it breeds. Dr. Walter often met with it when ascending the Ak-dagh at Domtschi, Kurtseverdeh-tschesme, and on the Guljuli Plateau." Mr. Zarudny also records it (Bull. Soc. Mosc. iii. p. 777) as being "common in the juniper region in the mountains of the Eastern Kopepet-dagh, where it frequents the bushes on the slopes, cavities, and defiles. Late in April I observed it, probably on passage, in the oases of Ahal and Atek. Specimens killed late in April had almost completed their moult."

According to Mr. Pleske, Russoff obtained two males at the breeding-places on the Iskander-kul in August 1878. Mr. Grum-Grzimailo procured one in Buchara in the same month, and Dr. Severtzoff records it as occurring in the mountains of Turkestan. Sir Oliver St. John states (Ibis, 1889, p. 165) that he obtained it at Kandahar and Quetta; and according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 406) it is found in winter "throughout Upper Sind, along the banks of the Indus." Mr. A. O. Hume records it (Stray Feathers, 1873, p. 196) as being "common in the cold weather in the Punjab and in the Doab, at least as low down as Agra, but hitherto I have seen no specimen from Central India or the Lower Doab. This tiny little leaf-hunter, the smallest of the whole group, is not uncommon along the banks of the Indus, and throughout Upper Sind wherever thick clumps of the bubul (*Acacia arabica*) are met with. It is a very silent self-concealing bird, creeping about amongst the feathery leaves of the acacia, and very difficult to secure." Mr. W. E. Brooks also writes (Stray Feathers, 1879, p. 480):—"It is the most timid and watchful little *Sylvia* I ever met with. The moment it hears the intruder it begins to mount its bush, vigorously uttering its churring note; as soon as it sees one it flies, and the only way to get it is to run in the direction of the sound and take a snap shot the moment you get a glimpse at it."

Beyond the above short notes I find nothing on record respecting the habits of this Warbler. There is no doubt that it breeds in Transcaspia and Turkestan, but its nest and eggs are as yet unknown.

There appears to be a somewhat larger form of this Warbler which also occurs in Sind, and was described by Mr. Brooks (*l. c.*) as a distinct species, under the name of *P. sindianus*; while Mr. Oates also separates these two forms and states that the larger form "resembles *P. neglectus* so closely as to require no separate description, and only differs in being larger." The differences in size he gives as follows, viz.:—*P. neglectus*: wing 1·85 to 2·1, first primary 0·6, second primary equal to the eighth or ninth, tail 1·5 to 1·65, tarsus 0·7 to 0·75, bill from gape 0·4; and *P. sindianus*: wing 2·05 to 2·4, first primary 0·6, second equal to the ninth, tail 1·75 to 2·05, tarsus 0·7 to 0·8, bill from gape 0·5. I do not, however, think it advisable to separate these two forms merely on account of a slight difference in size, especially as they inhabit the same locality. The Russian authors, however, treat *Phylloscopus sindianus* as being a form of *P. tristis*, and Pleske goes so far as to place *neglectus* in the genus *Luscinola*, and *sindianus* in the genus *Phylloscopus*; I am indebted to him for a specimen of what he considers to be *Phylloscopus sindianus*, which is labelled "*Phylloscopus tristis*, var. *sindianus*, ♂, Aksu-Darja (Pevtzoff)," which measures wing 2·2, first quill 0·9 shorter than the second, which is intermediate between the seventh and eighth, and which is certainly not *P. sindianus* of Brooks and

the Indian authors, but only a somewhat pale variety of *P. tristis*. Compared with my series of this latter species it differs merely in being somewhat paler in colour, but clearly shows the sulphur-yellow on the carpus and the axillary plumes. This specimen is undoubtedly referable to the pale form of *P. tristis* mentioned by Brooks, who writes (Stray Feathers, viii. p. 477) as follows:—"The longer, broader, and less pointed first, or bastard, primary is a good mark by which to distinguish *P. sindianus* from a pale *tristis*. Sometimes *tristis* is pale altogether, and as slightly yellow and green as *sindianus*, and then attention to the size and shape of this small feather is of use."

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♀, Kopepet-dagh, above Askabad, Transcaspia, July 27th (*Dr. G. Radde*). *b*, ♀, Sukhur, Sind, January 24th, 1880. *c*, ♂, Sehwan, Sind, January 27th, 1880 (*W. E. Brooks*).

E Mus. Brit.

a. Muru, Sind, January 14th, 1877; *b*. Mehar, Sind, December 20th, 1876; *c*. Tungwain, Sind, December 17th, 1871; *d*. Mehawulpore, January 30th, 1868; *e*. Setakar, Koostan range, December 8th, 1876; *f*, ♂, Musharo, Sind, January 6th, 1876; *g*, ♂, *h*, ♀, Sehwan, Sind, January 27th, 1880 (*Hume Collection*). *i*, ♂, Sehwan, Sind, January 21st, 1880 (*E. W. Oates*). *k*, ♀, Sehwan, January 23rd, 1880 (*E. W. O.*). *l*, ♂, West of Larkhana, Sind, December 5th, 1876; *m*, *n*, ♂, West of Mehar, Sind, December 20th, 1876; *o*. West of Shikapur, Sind, March 14th, 1875 (*W. T. Blanford*).



J. Krulmann del. et lith.

Mintern Bros. imp.

1. GREENISH WILLOW WARBLER.
PHYLLOSCOPUS VIRIDANUS.
2. BRIGHT GREEN WILLOW WARBLER.
PHYLLOSCOPUS NITIDUS

PHYLLOSCOPUS NITIDUS.

(BRIGHT GREEN WILLOW-WARBLER.)

Sylvia hippolais, Jerdon, Madras Journ. xi. p. 6 (1840, nec Linn.).

Phylloscopus nitidus, Blyth, Journ. As. Soc. Beng. xii. p. 965 (1843).

Hippolais swainsoni, Hodgs. in Gray's Zool. Misc. p. 82 (1844).

Regulus nitidus (Blyth), Gray, Gen. of B. i. p. 175 (1848).

Abroornis nitidus (Blyth), Bonap. Consp. Gen. Av. i. p. 290 (1850).

Phyllopseuste nitida (Blyth), Gray, Hand-l. of B. i. p. 215. no. 3050 (1869).

Acanthopneuste nitidus (Blyth), Zarudny, Bull. Soc. Mosc. iii. p. 778 (1890).

Phylloscopus (Acanthopneuste) nitidus, Blyth, Pleske, Ornithographia Rossica, ii. p. 172 (1891).

Figuræ notabiles.

Lorenz, Beitr. z. Kennt. d. Orn. Faun. Nords. Kauk. pl. ii. fig. 1; Pleske, Orn. Ross. pl. ii. fig. 2.

Ad. corpore suprâ flavescenti-viridi, vertice concolore: subtùs sulphureo: alis fasciis duabus notatis: remige secundâ sextâ brevior.

Adult Male (Muddapur, March 21st). Upper parts including the crown bright green, underparts sulphur-yellow; a broad sulphur-yellow stripe passes from the base of the bill above and behind the eye; median wing-coverts tipped with pale yellow, forming a somewhat obscure band across the wing, but the larger coverts are distinctly tipped with the same colour, forming a clearly defined second alar bar; quills dark brown, margined with grass-green; tail brown, the feathers, except the two middle rectrices, margined externally with grass-green: bill brown, the lower mandible flesh-coloured at the base; legs plumbeous brown; iris dark brown. Total length 4·65 inches, culmen 0·5, wing 2·4, tail 1·9, tarsus 0·7; second primary shorter than the sixth.

The female does not appear to differ from the male in plumage. The autumn plumage differs from that worn in the spring in being somewhat deeper in tone of colour, and the margins to the wing- and tail-feathers are rather more clearly defined.

PHYLLOSCOPUS NITIDUS is another Asiatic species which recent research has shown to occur regularly within the limits of the Western Palæarctic Region.

It has occurred once on Heligoland, a single example having been shot there on the 11th October, 1867, by Mr. Ludwig Gätke; and as this was the only instance of its occurrence within our limits when I wrote the 'Birds of Europe,' I did not deem it advisable to include it.

Regarding the range of this Warbler in Russia, Mr. Pleske writes (Orn. Ross. p. 174) as follows:—"Thanks to the information kindly furnished by Prof. Menzbier, I can point to the possibility of Schatiloff's specimen of *Sylvia rufa* or *Sylvia middendorffi*, from the neighbourhood

of Tamak in the Crimea, being *P. nitidus*. As, however, it was shot in January 1856 it remains a doubtful question as to whether it breeds there, which is not impossible. As to its occurrence in the Caucasus, it is true that only Mr. Lorenz procured it there; but it is probable that some, if not the most, of the records of *P. sibilatrix* from the Caucasus refer to *P. nitidus*. In any case I have never seen a single *P. sibilatrix* from the Caucasus, and would refer all to *P. nitidus*, were it not that Mr. Michalovski and Prof. Nordmann speak of having heard the very characteristic song of *P. sibilatrix* in the Caucasus. Lorenz first observed *P. nitidus* early in May, 1884, in the Beresowaja ravine, at Kisslovodsk, and a few days later on the Grischkina-Balka and in the Eschkakon ravine, on the Bermamut. In 1885 the bird was found breeding not uncommonly in the Eschkakon ravine and on the heights of the Dschinal, and was also met with in the Alikanowka ravine. In May 1866 Mr. Lorenz received several specimens from Bermamut, one of which he kindly presented to our Museum. In the Transcaspian district it is, according to Zarudny, common in the gardens of Achal-téké, in Gjarman, and in the wooded valleys by the mountain-streams. In his collection was a male obtained at Gjarman between the 10th and 22nd July, and one from Askabad obtained late in July." Zarudny further states (Bull. Soc. Mosc. iii. p. 778) that it is "common in the woods bordering the Tedgend, but tolerably rare on the central part of the Murghab, and is of frequent occurrence early in August in the juniper region on the Kopepet-dag." He met with it in the second, third, and last weeks of April in the oasis of Ahal, but was uncertain if these were migrants. After the moult, which some complete by the middle of July, they become very fat, as they also do in the spring. Dr. Radde obtained two specimens in Transcaspia—one at Tschikischljär on the 14th May, 1887, and one at Krasnovodsk on the 2nd May, 1886.

I find no record of its occurrence in Persia, where it is, however, probably to be met with; but it winters in India, where it is, according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 413), "a winter visitor to the whole of India, from the Himalayas to Ceylon, and from Sind to about the longitude of Calcutta." He also surmises that it breeds in Kashmir and the higher levels of the Himalayas. According to Col. Legge it is very numerous in Ceylon, arriving about the middle of September and leaving again late in March or early in April.

With regard to its habits as observed by him in Ceylon, Col. Legge writes (B. of Ceylon, p. 552) as follows:—"This species frequents the upper branches of umbrageous trees, no matter whether they may be situated in busy thoroughfares or in the quiet of the forest. It is especially fond of Jack-trees, which are mostly found in the gardens of the natives, and, again, is very partial to the monarchs of the forest which surround the many romantic tanks of the interior. In these spots its perpetual little chirrup invariably discloses its presence, when otherwise it would certainly be passed over in the lofty foliage which it frequents. It affects the leaves of trees more than *Phylloscopus magnirostris*, and darts out from its place of concealment on various insects, after the manner of a Flycatcher. It is very lively in its actions, and is sociably inclined, for one or two of its fellows may usually be found in an adjacent tree, each answering the other with its cheerful little note. Its flight is swift, although its powers of locomotion are not much brought into play after it once locates itself in its winter-quarters; it then merely darts from tree to tree, and often remains for a considerable time without moving out of its retreat."

According to Lorenz, the call-note of this Warbler resembles the note of *Budytes flava*, but

is stronger. . Although, as above stated, Lorenz found it breeding in the Caucasus, he does not appear to have taken its nest; and the nest and eggs are, so far as I can ascertain, as yet unknown.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂. March; c, ♀, d, ♂. April 21st, Muddapur, India (W. E. Brooks).

PHYLLOSCOPUS VIRIDANUS.

(GREENISH WILLOW-WARBLER.)

- Phyllopneuste rufa* (nec Lath.), Blyth, Journ. As. Soc. Beng. xi. p. 191 (1842).
Phylloscopus viridanus, Blyth, Journ. As. Soc. Beng. xii. p. 967 (1843).
Phyllopneuste affinis (nec Tickell), Blyth, Ann. Nat. Hist. xii. p. 98 (1843).
Phyllopneuste viridanus (Blyth), Gray, App. Cat. Mamm. &c. Nepal, &c. p. 152 (1846).
Regulus viridanus (Blyth), Gray, Gen. of B. i. p. 175 (1848).
Abrornis viridana (Blyth), Bonap. Consp. Gen. Av. i. p. 290 (1850).
Phyllopneuste viridana (Blyth), Hartl. Journ. f. Orn. 1854, p. 156.
Ficedula (*Phyllopneuste*) *middendorffii*, Meves, var. *intermedia*, Severtz. Turk. Jevotn. pp. 65 & 125 (1873).
Phylloscopus middendorffi (nec Meves), Severtz. Stray Feathers, iii. p. 427 (1875).
Phyllopseuste viridana (Blyth), Giebel, Thes. Orn. iii. p. 122 (1877).
Phylloscopus plumbeitarsus, Swinh., Dresser, Birds of Eur. ii. p. 507 (1878, partim).
Phylloscopus pseudo-borealis, Severtz. Ibis, 1883, p. 66 (partim).
Acanthopneuste viridanus (Blyth), Oates, Faun. Brit. Ind., Birds, i. p. 414 (1889).
Phylloscopus (*Acanthopneuste*) *viridanus* (Blyth), Pleske, Ornithographia Rossica, p. 176 (1891).

Figuræ notabiles.

Henderson and Hume, Lahore to Yark. pl. xix.; Pleske, Orn. Ross. pl. ii. fig. 3.

Ad. corpore suprâ sordidè fusco-olivaceo: uropygio pallidiore: subtùs albo-olivaceo cervino lavato: striâ superciliari flavido-cervinâ: remigibus et rectricibus sordidè fuscis, in pogonio externo olivaceo marginatis: tectricibus alarum majoribus albido apicatis fasciam singulam formantibus: rostro fusco: mandibulâ ad basin pallidiore: pedibus sordidè plumbeis: iride fuscâ.

Adult Male (Muddapur, April 28th). Upper parts dull olivaceous green, lighter on the rump; a distinct streak over the eye buffy yellow; wings and tail dull dark brown; the quills margined with olive-green on the outer web; larger wing-coverts broadly tipped with dull white, forming a single distinct band across the wing; tail-feathers, except the middle ones, narrowly margined with olive-green; underparts white, washed with pale greenish buff: bill brown, the lower mandible much paler at the base; legs brownish slate or dull slate-grey; iris dark brown. Total length about 4·5 inches, culmen 0·5, wing 2·35, tail 1·75, tarsus 0·75; second primary intermediate between the seventh and eighth, the third, fourth, and fifth longest.

The female does not differ from the male in plumage, but is, on an average, rather smaller in size. In the summer the plumage becomes browner on the upper parts, and rather paler on the underparts, owing to abrasion, and the alar bar becomes less distinct; in the autumn the upper parts are greener, the underparts more yellow in tinge, and the alar bar is more distinct; and in the winter the plumage,

judging from the specimens before me, differs but little from that above described. The young bird from the Ural resembles the adult, but has the upper parts rather greener and clearer in tint of colour.

WHEN, in 1878, in my article in the 'Birds of Europe' on *Phylloscopus plumbeitarsus*, I suggested that the young bird from Tjubuk, attributed by Meves to that species, was more probably *Phylloscopus viridanus*, I was certainly not prepared to hear that all the recorded occurrences of *P. plumbeitarsus* in the Ural, and within the limits of European Russia, would turn out to be referable to *P. viridanus*; but Mr. Pleske, who has recently worked this question out with the greatest care, has proved this to be the case, and he has also shown that *Phylloscopus plumbeitarsus* has not been ascertained to occur further west than in Turkestan, and should therefore be expunged from the list of Western Palæarctic birds. He states (Orn. Ross. ii. p. 178) that both *Phylloscopus viridanus* and *Phylloscopus plumbeitarsus* have been mixed up together under the name of *P. middendorffi*, but that he has ascertained that of these two only *P. viridanus* occurs west of the Ural, and that therefore all records of the occurrence of *P. middendorffi* in European Russia must refer to the present species. Thus Mag. J. Poljakoff met with it at the Ladscha Lake, in the Olonetz Government; and Sabanäeff records it from the Government of Jaroslaw. There is a specimen from Kasan which came with the Eversmann collection to the St. Petersburg Museum, and it is found in the Ural, and is said to be most numerous in the Perm Government. Sabanäeff has, Mr. Pleske continues (*l. c.*), "recorded *P. viridanus* from the borders of the Orenburg Government to Bogoslovsk, and also met with it in the birch-woods of Bashkiria, on the eastern slope of the Ural. In the Perm Government he found it in a garden in the town of Perm, in the Pavdinskisch and Bogoslovskisch Ural, on the east side of the Ural range. Meves met with it in the Perm Government, on the banks of the Kama, opposite the town of Perm, and at Tjubuk, where a male and female were seen feeding their not fully fledged young on the 9th July. Meves, however, wrongly identified his specimens as being *P. middendorffi*. A specimen obtained by him came into the possession of Mr. E. von Homeyer, who corrected the former erroneous identification of Meves and Dresser, and identified the Ural example as *P. viridanus*. We must not omit to name a male kindly presented to our Museum by Mr. Teplouchoff, and to remark that Prof. Menzbier's notes on the migration-route of *P. plumbeitarsus* in European Russia refer to *P. viridanus*. Thanks to the liberality of Mr. N. Zarudny our Museum received a splendid specimen from the vicinity of Orenburg. Severtzoff speaks of a specimen having been obtained at the mouth of the Ural river in May 1861, and the two examples from the Karelin collection in our Museum probably came from Gurjeff. This Warbler appears to be not uncommon on the northern shores of the Caspian, as two specimens, now in the University Museum, were obtained by Prof. Bogdanoff on the Kulaly.

"With regard to the occurrence of this bird in the Caucasus I can give no positive information. The bird described by Dr. Radde as *P. plumbeitarsus*, which was shot at Tiflis on the 29th April, certainly does not belong to that species, but appears, to judge from the description, to be referable to *P. viridanus*, if not to *P. nitidus*, which has been several times recorded from the Caucasus.

"To proceed to the occurrences in the Altai range, I believe that Tschichatscheff's notes on

P. trochilus, which does not inhabit the Altai, must be referable to *P. viridanus*, which view is confirmed by Homeyer and Tancré, who received five specimens from the Altai, one of which, shot at Kenderlyk on the 27th April, 1885, is in our Museum. Furthermore, Mag. A. Nikolski brought home a specimen from the Altai which he obtained at the end of August in a willow-thicket on the Ilijskij Wisselok. The view expressed by Homeyer and Tancré (Mitth. d. orn. Ver. in Wien, 1883, p. 84), that some of the specimens of *P. trochilus* obtained by Dr. Finsch might prove to belong to the present species, does not appear to be well grounded, as all Finsch's specimens were procured in the valley of the Ob, where *P. trochilus* undoubtedly occurs, while *P. viridanus* has not been obtained there.

"From Turkestan we find records by Severtzoff and Russoff. Severtzoff observed *P. viridanus* in the valley of the Kora, at Kopal, in the spurs of the Alexander range, near Aulie-ata, and in Karatau. Later on he stated that his *P. pseudo-borealis*, which has been shown to refer partly to *P. viridanus*, breeds in the mountains of the northern portions of the Ferghana Valley, N.W. of Namangan, and was obtained in various parts of the Tian-shan, eastward to the upper portion of the Ili. Russoff collected numbers of this bird at Tschinas, and confirmed the records of its nesting on the Iskander-kul."

To these notes I may add that this Warbler has been met with so far west in Europe as Heligoland, where it has been obtained by Gätke on three occasions—on the 25th September, 1878, on the 30th May, 1879, and on the 8th June, 1880. I may also remark that von Homeyer was not the first to point out that the bird obtained by Meves in the Ural, and recorded as *P. middendorffi*, was really referable to *P. viridanus*, as Mr. W. E. Brooks examined von Homeyer's specimen in 1877, and the same year (Ibis, 1877, p. 396) pointed out that it was undoubtedly *P. viridanus*, whereas von Homeyer did not record the fact until 1883.

It does not appear to have been clearly ascertained how far east the present species is to be met with in Asia. Mr. Oates included it in his 'Birds of British Burmah'; but, as he has subsequently shown, this was an error, as neither the Hume nor the Tweeddale collections contain a single specimen from that country.

Dr. Henderson found it common in Hill Yarkand, at the Arpalik River, in August; and Dr. Scully observed it amongst the tamarisk- and willow-bushes fringing the Sanju stream and along the banks of the Karakash River.

It has been recorded from Gilgit by Dr. Scully and Col. Biddulph, and winters in India, where, according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 414), it is found "throughout the whole length of the Himalayas from the Hazára country to Sikhim, and over the whole peninsula of India down to Ceylon, with the exception of Sind and the western portion of Rajputana. To the east this species extends commonly to Calcutta, and has been found in Northern Sylhet."

This Warbler is said to frequent mixed groves and woods; and, according to Severtzoff, it is to be met with amongst bushes and the tall steppe grass. Dr. Scully noticed it amongst the tamarisk- and willow-bushes, and remarks that it seemed very restless, continually flitting from spray to spray. Both Blyth and Dr. Scully state that its voice is weak, and the former describes the note as *tiss-yip, tiss-yip*, frequently uttered. Sabanäeff, however, says that the voice of this bird consists of so loud and strong a trill that it can scarcely be recognized as the song of a

Leaf-Warbler, and its call-note, which is a short and shrill *psi, psi*, closely resembles that of the Yellow Wagtail.

The present species certainly breeds in the Ural and the north-eastern portions of European Russia, and also, according to Pleske, in the Altai, in Turkestan, and Bokhara, and it probably also nests in the higher parts of the Himalayas. Mr. W. E. Brooks (Str. Feath. vii. p. 510) found a newly made nest in Kashmir, which he describes as being domed, and placed on the steep bank-side of a ravine full of small birch trees, at an elevation of about 11,000 feet. Unfortunately it was empty. This is the only record of the nest having been found, and the eggs are as yet unknown.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *pull.* Tjubuk, S.E. Ural, July 21st, 1872 (*W. Meves*). *b*, ♂. October 1st, *c*, January 13th, Cawnpore; *d*, November 14th, *e*, ♀. April 29th, *f*, ♂. April 21st, *g*, November 14th, Muddapur, India; *h*, ♂. Jumalpur, October 16th, 1878; *i*, ♂. Kashmir, May 9th, 1871; *k*, Bareilly; *l*, ♂. Cawnpore, January 20th; *m*, ♀. March 16th, *n*, ♀. April 21st, *o*, ♂. April 22nd, *p*, ♂. April 28th, *q*, ♀. October 11th, *r*, October 28th, *s*, ♂. November 2nd, *t*, ♀. November 21st, Muddapur, India (*W. E. Brooks*).

HYPOLAIS RAMA.

(SYKES'S WARBLER.)

- Sylvia rama*, Sykes, Proc. Zool. Soc. 1832, p. 89.
Calamodyta rama (Sykes), Gray, Gen. of B. i. p. 172 (1848).
Phyllopneuste rama (Sykes), Cat. B. in Mus. As. Soc. p. 183 (1849).
Phylloscopus rama (Sykes), Walden, Ibis, 1869, p. 211.
Iduna caligata (nec Licht.), Hume, Nests & Eggs of Ind. B. p. 360 (1874).
Hypolais rama (Sykes), Dresser, B. of Europe, ii. p. 542 (1875).
Hypolais rama (Sykes), Brooks, Str. Feath. iv. p. 275 (1876).
Salicaria tamariceti, Severtzoff, Turk. Jevotn. p. 131 (1873).
Salicaria modesta, id. op. cit. p. 129 (1873).
Salicaria obsoleta, id. op. cit. p. 129 (1873).
Hypolais obsoleta (Severtzoff), Seebohm, Cat. B. Brit. Mus. v. p. 86 (1881).
Hypolais (Iduna) rama (Sykes), Pleske, Orn. Ross. ii. p. 359 (1890).
Iduna rama (Sykes), Pleske, tom. cit. p. 360 (1890).
Tshourlentki, Tekke ; *Koktalghu*, Turki.

Figura nulla.

Ad. corpore suprà sordidè brunnescenti-cinereo : striâ superciliari pallidè cervinâ : remigibus et rectricibus brunnescentibus, extùs sordidè fulvido marginatis : corpore subtùs albo : abdomine vix cervino lavato : remige secundâ octavâ brevior.

Juv. corpore suprà magis isabellino tincto : subtùs albo, pectore flavido lavato.

Adult Male (Merv, June 10th). Upper parts dull brownish grey with a fulvous tinge ; lores dusky ; a pale buff streak passing from the bill above and just behind the eye ; wings and tail brown, with dull fulvous-brown margins to the feathers ; the outer tail-feather with the outer web dull white ; underparts white, faintly tinged with buff on the abdomen : bill brown, the lower mandible dull fleshy at the base ; legs grey ; iris brown. Total length about 5 inches, culmen 0·55, wing 2·3, tail 2·15, tarsus 0·8 ; first primary 1·05 short of the tip of the wing, second intermediate in length between the eighth and ninth, the third, fourth, and fifth primaries equal and longest ; secondaries 0·35 short of the tip of the wing.

The female does not differ from the male in plumage. In the autumn the plumage is brighter and redder in tinge on the upper parts, and the underparts are tinged with buff. The nestling plumage, which represents Severtzoff's *Hypolais obsoleta*, differs, according to Pleske, in being duller and more isabelline in tint on the upper parts, and the underparts are silky white tinged with yellowish on the breast.

THE present species, which is a large-sized eastern form of *Hypolais caligata*, inhabits, during the breeding-season, Transcaspia, Turkestan, South-eastern Mongolia, South-western Persia, and Kashmir, spending the winter in India.

According to Mr. Zarudny (Rech. Zool. Transcasp. p. 73) "its distribution in Transcaspia is widely extended; it is very common in the basin of the Murghab and Tedgend, in the oasis of Atek and the neighbouring mountains below the juniper zone. In summer it is to be seen with its young amongst the sand-hills a few versts distant from a valley watered by a small river. Its favourite haunts in summer are dry places near water, covered in some parts with tamarisk or other bushes, and in others with alchargis; it is also often met with in dried-up marshes sparingly covered with bushes and scattered small reeds, and is, as a rule, more numerous in the plains than in the mountains.

"In the oasis of Merv it has penetrated along the Alikhanow canal to the eastern sand-districts, almost as far as the salt-plains of Djondjoneli, where in the spring the floods submerge a large number of the nests of this bird. On the 16th of June I saw, near the lake Ayna-Gueul, young birds which were ready to leave the nest. The bird is so common in this country, and is so careless in hiding its nest, that between the end of April and the beginning of June I found at least sixty."

According to Messrs. Radde and Walter (Vög. Transcasp. p. 51) it is extremely common in the tamarisk-thickets along the water-courses. The first migrants arrived in 1886 at Molla-kary on the 23rd April (new style), and from the 16th to the 28th of April they increased largely in numbers. On the Murghab the first migrants appeared in 1887 on the 16th of April, and the largest number was observed passing on the 20th of April.

Mr. W. T. Blanford obtained examples at Karman, Persia, in May, at Shiraz in June, and at Ispahan in July, and he also met with it in Baluchistan in March and April. In Turkestan, according to Severtzoff, it is common on the Syr-Darja; and Prjevalsky met with it in 1877 on the return journey from Lob-nor in the Tian-shan, and obtained specimens in the Chaidu-gol valley on the Juldus and the Ili, in which last-named locality numbers were nesting. Early in September one was shot on the Zairam-nor.

Mr. Oates writes (Faun. Brit. Ind., Birds, i. p. 392) that the distribution of this Warbler extends "throughout the whole peninsula of India down to the Nilgiris in the south, and to the longitude of Dinapore and Lohardugga in the east. I have examined a large series of birds from almost every portion of this area. It is in general a winter visitor, but Doig found a large colony breeding from March to July on the Eastern Nára, Sind. It breeds in Quetta and westwards to Europe; also in Turkestan; and Seebohm states that it breeds in Kashmir. India appears to be its main winter-quarters."

In habits the present species closely resembles *Hypolais caligata*, but, according to Mr. Zarudny, its note differs from the note of that species. Its song, he adds, is feeble but very agreeable; when the male sings it erects the feathers of its crown and perches on the most elevated bare branch of a bush, and is therefore easy to shoot; but in the summer it is not so easy to procure it, as it is then more retiring in its habits.

The breeding-range of Sykes's Warbler extends, it appears, from Transcaspia eastward to the Tian-shan range, and I do not find any confirmation of the statement made by Mr. Seebohm

(Cat. B. Brit. Mus. v. p. 85) that it breeds in the valley of the Lower Volga. According to Mr. Zarudny it breeds very commonly in Transcaspia; and he gives a careful description of eight nests he found, all of which were placed low down on a bush, chiefly under a foot from the ground, and were constructed of fine bents and twigs of tamarisk intermixed with vegetable down and wool, and lined with vegetable down, wool, and horsehair, sometimes with a few feathers, and contained from four to seven eggs, one only containing as many as seven. The nests obtained by Messrs. Radde and Walter at Chodsha-kala were placed in tamarisk-bushes low down, and were, they say, somewhat remarkable as having the upper part of the cup oval in shape. They contained only from three to four eggs.

The eggs resemble those of *Hypolais pallida*, but are smaller, and have a slight tendency to the eggs of *Acrocephalus palustris* in appearance, as I remarked (P. Z. S. 1874, p. 656) when I exhibited the nest and eggs of this Warbler obtained in Persia by Mr. Blanford, and figured in the P. Z. S. 1874, pl. lxxix.

As the present species so closely resembles *Hypolais caligata* in coloration, I have not deemed it necessary to give a figure of it.

The specimens described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

- a, b*, ♂. Merv, June 5th and 10th (*Dr. G. Radde*). *c*, ♂. Ispahan, Persia, July 10th, 1872 (*W. T. Blanford*).
d. Etawah, N.W. India, September 14th, 1869; *e*, ♀. Etawah, September 25th, 1869 (*W. E. Brooks*).



1875

Hanhart imp

EASTERN GRASSHOPPER WARBLER.
LOCUSTELLA STRAMINEA

LOCUSTELLA STRAMINEA.

(EASTERN GRASSHOPPER-WARBLER.)

Locustella certhiola (nec Pall.), Jerdon, B. of India, ii. p. 159 (1863).

Acridiornis straminea, Severtzoff, Turk. Jevotn. p. 66 (1873).

Locustella hendersoni (nec Cass.), Dresser, B. of Eur. ii. p. 614 (1874).

Locustella lanceolata (nec Temm.), Dresser, Ibis, 1876, p. 90.

Locustella straminea (Severtzoff), Seebohm, Ibis, 1880, p. 276.

Figura nulla.

Ad. L. naeviae similis, sed minor: corpore suprâ magis olivascente tincto, et magis fusco notato: pileo et uropygio magis notatis: corpore subtùs albo, pectore et hypochondriis cervino lavatis: remige secundâ longitudine inter 5^m et 6^m, tertiâ longissimâ.

Adult (Ekaterinburg, June 20th). Resembles *L. naevia*, but the ground-colour of the upper parts is paler and more olivaceous in tint, and the dark markings clearer and more pronounced, especially on the head and rump; underparts white, washed with buff on the breast and flanks: bill horn-brown, yellowish at base; legs dull yellowish flesh; iris brown. Total length about 4·5 inches, culmen 0·55, wing 2·15, tail 1·95, tarsus 0·82; first primary about as long as the wing-coverts, second intermediate between the fifth and sixth, the third longest.

Young (Orenburg, May 26th). Differs from the adult in having the upper parts much more boldly marked, the margins to the feathers being narrower and paler; throat spotted with blackish brown.

The sexes do not differ in plumage, and the winter dress scarcely differs from that worn in the spring, the only difference being that the upper parts are rather duller in tint.

THE present species, which is the Eastern representative of our Grasshopper-Warbler, ranges from the Ural Mountains through Turkestan to the Pamirs, and south into India, breeding in the Ural, Transcaspia, and Turkestan, and wintering in India.

According to Zarudny (*vide* Pleske, Orn. Ross. ii. p. 613) both the eastern and western forms are found at Orenburg, but *Locustella straminea* largely predominates, *Locustella naevia* being comparatively rare. He met with it in the valleys on the central portion of the Ural River, on the lower portion of the Ilek and Tschingurlan, as also on the Tschagan and Lower Sakmara, where it was not uncommon. It is rather difficult to determine to which of the two forms the various records from different portions of Russia refer, but, according to Mr. Pleske, all the specimens obtained by Messrs. Lorenz and Rossikoff in the Caucasus belong to *Locustella straminea*. Mr. Rossikoff obtained it at the Stanitza Prochladnaja, and Mr. Lorenz collected a large number in the vicinity of Kislovodsk, on the Podkumok and the Dshutza, and in the

Beresowaja gorge. Dr. Lehmann obtained a Grasshopper-Warbler, which probably belonged to the eastern form, at Nowo-Alexandrowsk, on the peninsula of Mangyschlak; and, according to Severtzoff, it breeds in the steppe and mountain districts of nearly the whole of Turkestan, from the delta of the Syr-Darja in the west along its entire course, on the Karatau, in the western Tian-shan, and in Semiretschje, and Mr. Russoff sent examples to the St. Petersburg Museum from Tschinas and Iskander-kul. In June, 1877, it was met with by Col. Prjevalsky in considerable numbers in the meadows in the forest-zone of the Kungas valley (Tian-shan), and it nests there, he adds, in the thick grass.

Severtzoff met with it in the Pamir range, and says (Ibis, 1883, p. 65) that it was "found at the end of July on brook-swamps near the mountain-pass between the Chatir-kul and Kara-kul in the northern range, at the height of nearly 15,000 feet. It probably breeds there." Col. Biddulph obtained it at Gilgit; and according to Mr. Oates (Faun. Brit. Ind., Birds, i. p. 355) it is "a winter visitor to the plains of India. I have examined specimens from Delhi, Etáwah, Cawnpore, Native Sikkim, the Bhutan Doars, Asansol, Deesa, Belgaum, and Coimbatore. All these were killed from April to September, except the specimen from Native Sikkim, which was procured in June. It is, therefore, probable that *L. straminea* may pass the summer and breed there. Cripps records this species from Furreedpore, but I have not had an opportunity of examining the specimen referred to by him." Mr. Oates further states that the summer-quarters of this bird are not known; and the above statement that it has been met with in India "from April to September" is probably a misprint.

In habits the present species does not appear to differ from its western ally, and its nest and eggs doubtless resemble those of that species, but I do not find any description of them on record.

Mr. Pleske (*l. c.*) does not separate the eastern and western forms specifically, but after a careful examination of the series in the British Museum, and a comparison between European and Asiatic specimens, I think that the two forms may reasonably be kept apart. Specimens of *Locustella straminea* from the Ural, compared with examples from Germany, have the markings on the upper parts much more clearly defined, more especially on the head and rump, where in German specimens they are much less clearly defined, the rump being almost devoid of the dark markings; the ground-colour is also darker in the western form, and more olivaceous and lighter in the eastern. The eastern form is smaller and has the second primary intermediate between the fifth and sixth, whereas in the German bird it is intermediate between the third and fourth. On the whole the differences between *Locustella straminea* and *L. naevia* appear to me to be about equivalent to those between *Hypolais rama* and *H. caligata*.

The specimen figured and described was obtained by Sabanäeff at Ekaterinburg and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

- a.* Ekaterinburg, Ural, June 20th, 1872 (*Sabanäeff*). *b, c, ♂*. Orenburg, May 23rd and 26th (*Menzbier*).
d. Etáwah, N.W. India, April 13th, 1869; *e.* Etáwah, September 13th, 1869 (*W. E. Brooks*).

Genus SCOTOCERCA.

- Malurus* apud Cretzschm. in Rüpp. Atlas, p. 55 (1826).
Curruca apud Hemp. & Ehr. Symb. Phys. fol. 66 (1828).
Prinia apud Rüpp. Neue Wirbelth., Vögel, p. 113 (1835-49).
Drymoica apud Rüpp. Syst. Uebers. p. 56 (1845).
Scotocerca, Sundevall, Av. Meth. Tent. p. 7 (1872).
Melizophilus apud Brooks, Ibis, 1872, p. 180.
Atraphornis, Severtzoff, Turk. Jevotn. p. 121 (1873).

THE present genus is perhaps nearest allied to *Drymæca*, from which, however, it is fairly separable. It inhabits the southern portion of the Palæarctic Region, and contains but two species, full particulars respecting the range and habits of which are given in the following articles.

Scotocerca inquieta, which is the type of the genus, has the bill slender, the upper mandible slightly decurved towards the tip, not notched, the nostrils basal, oval, gape furnished with a few very fine bristles; wings moderately long, first quill large, only 0·4 inch shorter than the second, which is 0·2 shorter than the third, the third, fourth, fifth, and sixth nearly equal, the third and fourth being the longest; tail about equal in length to the wing, rounded, tail-feathers ten in number; tarsus rather long, scutellate; feet moderate; plumage soft and rather loose, general colour greyish sandy, upper parts more or less striated.

SCOTOCERCA INQUIETA.

(STREAKED SCRUB-WARBLER.)

- Malurus inquietus*, Cretzschm. in Rüpp. Atlas, p. 55, tab. 36. fig. B (1826).
Curruca famula, Hempr. & Ehr. Symb. Phys. fol. 66 (1828).
Prinia inquieta (Cretzschm.), Rüpp. Neue Wirbelth., Vögel, p. 113 (1835-49).
Drymoica inquieta (Cretzschm.), Rüpp. Syst. Uebers. p. 57 (1845).
Drymæca eremita, Tristram, Ibis, 1867, p. 76.
Drymoica eremita, Tristr., Gray, Hand-l. of B. i. p. 199. no. 2783 (1869).
Drymæca inquieta (Cretzschm.), Heuglin, Ibis, 1869, p. 129.
" *Sylvia famula*, Hempr. & Ehr.," id. Orn. N.O.-Afr. i. p. 244 (1869).
Scotocerca (*Mal. inquietus*, Rüpp.), Sundevall, Av. Meth. Tent. p. 7 (1872).
Melizophilus striatus, Brooks, Ibis, 1872, p. 180.
Atraphornis platyura, Severtz. Turk. Jevotn. p. 124 (1873).
Scotocerca inquieta (Cretzschm.), Blanford, E. Pers. ii. p. 207 (1876).

Figuræ notabiles.

Rüpp. Atlas, pl. xxxvi. fig. B; Wyatt, Mamm. & Avif. Sinai, pl. xvii. fig. 2; Blanford, E. Pers. ii. pl. xiii. fig. 2.

Ad. corpore suprâ pallidè griseo-fusco, plumis pilei conspicuè dorsi obscurius fusco striatis: alis brunneis, remigibus pallidiorè marginatis: caudâ nigro-fuscâ, indistinctè pallidiorè marginatâ: corpore subtùs albo, hypochondriis griseo-cervino lavatis: gulâ conspicuè nigro-fusco striatâ: loris et striâ superciliari cervinis, vittâ inter rostrum et oculum et striâ postoculari nigricantibus: capitis lateribus griseo-cervinis: rostro fusco, mandibulâ ad basin fusco-aurantiacâ: pedibus flavido-fuscis: iride fuscâ.

Adult Male (Baluchistan, March 8th). Upper parts pale greyish hair-brown, the crown with distinct, the back with indistinct darker streaks; wings light brown, with paler margins to the feathers; tail blackish brown, with indistinct paler margins to the feathers; underparts white, the flanks washed with greyish buff, the throat clearly streaked with blackish brown; lores and a narrow superciliary streak sandy buff; a blackish spot in front of the eye and a small blackish streak behind the eye; sides of the head greyish buff: bill dark brown, the base of the lower mandible orange-brown; legs yellowish brown; iris brown. Total length about 4 inches, culmen 0·45, wing 1·85, tail 1·65, tarsus 0·75.

Specimens from Transcaspia are paler and greyer on the upper parts than the specimens above described, and have the underparts whiter; but none exhibit a tendency towards the warm isabelline colour so characteristic of the western form, *S. saharae*. The sexes do not differ in plumage.

FROM Arabia Petræa and Palestine through Transcaspia and Persia to the vicinity of the Indus river the present species is to be found in stony desert places.

Hemprich and Ehrenberg record it from Egypt; Von Heuglin says that it is a resident in Arabia; and the Rev. F. W. Holland obtained it at Wady-Feiran on the Sinaitic peninsula.

Canon Tristram (Ibis, 1867, p. 76) met with it in the desolate wadys opening on the west side of the Dead Sea, where it flitted restlessly from one little desert shrub to the other. He found one or two in each wady, but never two together, and it inhabited ravines where the Rock-Chats were the only other birds that could find sustenance. He remarks that it was extremely shy and wary. It is found in suitable localities throughout Transcaspia, and has been met with, Dr. Severtzoff says, on the western shores of the Caspian. According to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 783) it is very common on the sands which surround the Merv oasis and on the plain of the central Murghab. On the 19th June he observed a family of this species amongst the bushes growing on the ruins of Bayram-Ali-Khan-Kala. This bird is, he adds, frequently met with on the plains of Tedgend, but he did not observe it (in 1886) on the low plains in the oasis of Ahal-Téké nor in the neighbouring portion of the Kara-Koum desert. Messrs. Radde and Walter, who also met with it in Transcaspia, write (Vög. Transcasp. p. 48) as follows:—"Inasmuch as we obtained the first specimens between the 15th and 18th February, at Krasnovodsk, when it was still in the depth of winter, we may take it for granted that some at least remain over the winter. On passage to Turkestan this otherwise mountain-haunting bird was seen in the said district, as, for instance, numerous on the 27th and 28th March, 1887, at Utschadshi. In 1886 we observed a few on the 8th March in the sand at Bal-kuju, and a specimen shot on the coast of Tschickischlar by Mr. Jasevitch, on the 22nd May, was probably a late straggler on migration. It breeds numerously in all the mountains both in the coast-chain of the Kuba-dagh and in the Balchan, and throughout the Kopet-dagh. On the 25th April we saw fledged young in the great Balchan." It inhabits Persia, but is, Mr. Blanford writes (E. Pers. ii. p. 209), "very locally distributed in Southern Persia and Baluchistan, though it was far from scarce where it occurred. I usually met with it amongst low scattered bushes and shrubs, on plains and hill-sides. Amongst the bushes it was very active, hunting amongst the twigs and frequently flying from bush to bush with the feeble, jerking uncertain flight of other *Drymæcæ*, or hopping about on the ground at the roots of the bushes. It was familiar, trying to hide in the bushes when pursued, and altogether its habits reminded me much of those of *D. gracilis*, Rüpp." Sir Oliver St. John (Ibis, 1889, p. 165) obtained it at Kandahar, Afghanistan, and Dr. Duke in the highlands south of Kelât, and also, according to Col. Swinhoe (Ibis, 1882, p. 108), at Iskulko, in Northern Baluchistan. In British India it is, Mr. Oates states (Faun. Brit. Ind., Birds, i. p. 433), "a resident in the bare stony hills which run, in various broken ranges, from the Khyber Pass to the sea, on the west of the Indus river."

In its habits the present species is said to resemble the *Drymæcæ*, and more especially *Drymæca gracilis*.

Mr. Zarudny, who had ample opportunities of observing it in Transcaspia, says (*l. c.*) that he found it "very common in the stony mountains covered with low bushes on the precipices and amongst the clefts and cavities. It is but seldom seen in the zone of the large junipers, and still rarer in the stony plains of the mountains, and does not even descend into the plain of the Ahal-Téké, though it is to be met with in the lower portions of the Kopet-dagh. Very restless in its habits it is seldom quiet, and glides swiftly through the bushes, skipping from stone to

stone, now and again picking up small insects; occasionally it perches on the top branch of a bush or on a stone, jerks its tail up and utters shrill notes. On the wing it performs various evolutions, rising somewhat in the air it suddenly drops on the ground and rebounds up, reminding one of an india-rubber ball. In the latter half of June I observed family parties, four young ones with their parents, and in July and August the young were seen singly and the old birds in pairs. This bird is very tame, and one can approach within a few paces of it, and if one is shot the report of the gun does not frighten away the survivors."

In Arabia Von Heuglin says (*l. c.*) it occurs singly and in pairs, and not unfrequently is to be seen on the ground, hopping and running amongst the stones and rocks. It is a very active and lively bird, reminding one more of the Leaf-Warblers than the *Maluræ* in its general habits. Its song is somewhat Tit-like, the harsh call-note being not unlike that of *Parus cristatus*. In the early hours of the morning the melodious song of the male echoes far throughout the desert lonely places which it frequents, but during the hotter portions of the day it is more silent.

Captain Cock was the first to obtain authentic eggs of this bird, and informed Mr. A. O. Hume ('Nests and Eggs of Indian Birds,' 2nd ed. i. p. 276) that he "first discovered it breeding in February in the Khuttuck Hills. It is common throughout the range of stony hills between Peshawur and Attock, and I have seen it on the hills between Jhelum and Pindi, but never took their nest in this latter locality. At Nowshera it is very common, and towards the end of February a collector could take four or five nests in a day. It builds in a low thorny shrub about $1\frac{1}{2}$ feet from the ground, makes a largish globular nest of thin dry grass-stems with an opening in the side, thickly lined with seed-down, and containing four or five eggs. Their nesting-operations are over by the end of March." Lieut. Barnes, who met with this species at Chaman, in Afghanistan, says that they commenced breeding there towards the end of March, and that the normal number of eggs is six, and describes them as being "oval in shape, white, with a pinkish tinge when fresh, very minutely spotted and speckled with light red, most densely at the larger end. The average of twelve eggs is 0.62 by 0.43 inch." Mr. Barnes states that the nests he found were lined with feathers and fine grass. A nest sent to me by Mr. W. E. Brooks was constructed of dry grass-stems and lined with fine grasses; in was oval in shape, domed, with an entrance on the side near the top, and the eggs were white spotted with red, the spots being rather more numerous round the larger end and not very minute.

Mr. A. O. Hume writes (*l. c.*):—"The eggs are moderately broad and regular ovals, usually somewhat compressed towards one end, but occasionally exhibiting no trace of this. The shell is very fine and delicate, but, as a rule, entirely devoid of gloss. The ground-colour varies from pure to pinky white. The markings are always minute, but in some they are comparatively much bolder and larger than in others, and they vary in colour from reddish pink to a comparatively bright red. In many eggs the markings are much more dense towards the large end, where they form, or exhibit a strong tendency to form, an irregular, more or less confluent zone; and wherever the markings are dense there a certain number of tiny pale purple or lilac spots or clouds will be found intermingled with and underlying the red markings. Some eggs show none of these spots and exhibit no tendency to form a zone, being pretty uniformly speckled and spotted all over. Some are not very unlike eggs of the Grasshopper and Dartford Warblers;

others, again, are almost counterparts of the eggs of *Franklinia buchanani*. In length the eggs vary from 0·6 to 0·68 inch, and in breadth from 0·46 to 0·51."

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Magas, Baluchistan, March 8th, 1872 (*W. T. Blanford*). *b*, ♂. Krasnovodsk, February 9th, 1886; *c*. Chistchitnyar, May 10th; *d*, ♀. Balchan, April 13th, 1886 (*Dr. G. Radde*). *e*. Dort-Kuyou, May 25th (*Prof. Menzbier*).



C. J. G. M. de Vries

Mintern Bros. Inc.

1. ALGERIAN SCRUB WARBLER.
SCOTOCERCA SAHARÆ.
2. STREAKED SCRUB WARBLER.
SCOTOCERCA INQUIETA.

SCOTOCERCA SAHARÆ.

(ALGERIAN SCRUB-WARBLER.)

Malurus saharæ, Loche, Rev. et Mag. de Zool. 1858, p. 395.

Malurus sahara, Loche, Cat. des Produits de l'Algérie, p. 87 (1858).

Drymoica striaticeps, Tristram, Ibis, 1859, p. 58.

Drymæca striaticeps, Tristr., Heugl. Orn. N.O.-Afr. i. p. 245 (1869).

Drymoica saharæ, Loche, Expl. Sci. de l'Algérie, Oiseaux, p. 283 (1867).

Scotocerca saharæ (Loche), Sharpe, Cat. B. Brit. Mus. vii. p. 214 (1883).

Figuræ notabiles.

Loche, Rev. et Mag. de Zool. 1858, pl. xi. fig. 2; Koenig, J. für Orn. 1892, tab. iii.

Ad. corpore suprâ isabellino vix rufescente tineto, pileo indistinctè pallidè fusco striato: remigibus fuscis, isabellino marginatis: rectricibus fuscis, rufescenti-cervino marginatis, nonnullis cervino-albido apicatis: corpore subtùs albo: gulâ et gutture indistinctè pallidè griseo-fusco striatis.

Adult Male (Algeria, Sahara). Upper parts warm greyish isabelline, with a slight rufous tinge, especially on the rump; wings brown, the quills margined with sandy isabelline; tail dark brown, the feathers margined with rufescent isabelline, several having dull whitish-isabelline tips; underparts white, the throat indistinctly striated with greyish brown, these striations extending to the sides of the breast: bill pale brown, lighter and tinged with orange at the base; legs yellowish flesh; iris brown. Total length about 4 inches, culmen 0·4, wing 1·75, tail 1·7, tarsus 0·75.

THE present species, the western representative of *Scotocerca inquieta*, is only known to occur in North-west Africa, and was first discovered by the late Major Loche in Algeria, where, though locally distributed, it is in places tolerably common. Canon Tristram writes (Ibis, 1859, p. 419): "In one and only one locality did I meet with this most graceful Warbler. On the route between N'goussa and Témaçin we had halted for a few hours by the salt-lake of Aïn Bahrdahd, one of the most extensive of the few natural wildernesses of the desert, and which had not at that time been visited by any European. Wandering in the swamp in pursuit of *Crateropus fulvus*, I was struck by a clear long-drawn call of five notes, unlike any I had ever heard—*whēē-why-whe-whē-hēē*. It was long before among the tamarisks I could descry the songster, whom I at length observed, now running up the boughs like a Creeper, and then poising himself on a twig with his tail perpendicularly expanded and jerking it backwards and forwards Capt. Loche has, I believe, since obtained it at the same spot. It occasionally poises itself in the air and suddenly drops down again among the long grass." Dr. Koenig obtained several specimens at Biskra in Algeria, where it was, he says, by no means uncommon in the desert; and he further adds that the collector Alessi sent him skins obtained in the vicinity of Gabes in Tunis.

Mr. Whitaker (Ibis, 1895, p. 95) says that it "seems to be strictly a desert species, never

occurring far north of the Sahara. During my recent journey in Southern Tunisia I met with it only on the plains to the west of Gafsa, and there but sparingly. In the Algerian Sahara, however, and within a few miles of Biskra, I found it more plentiful, and my friends who visited the country south of the Chott Djerid also met with it constantly. It is a shy, timid little bird, and on the approach of danger hides in the middle of some scrub-bush, from which it is not easily dislodged. I generally found it in pairs, and, judging from the condition of specimens obtained in the early part of April, it was then breeding."

Dr. A. Koenig informs me that "the nest of this bird is placed in a desert bush, usually in one of the thorn-bushes, and is artistically constructed, nearly round, domed, with a round entrance-hole in the side. The average measurements are:—outer circumference 40 cm., diameter 12 cm., depth of the interior 7 cm., diameter of the entrance 3 cm. In general appearance the nest resembles that of the Wren. The eggs are white with a dull gloss, and are dotted and blotched with deep red, the markings being more numerous round the larger end, and there are also a few pale lilac ground-markings. The eggs also somewhat resemble those of the Wren, more particularly those which are more richly marked, whereas those which are more sparsely spotted resemble those of the Titmice."

In my collection I have a clutch of four eggs of this bird, received from Major Loche, which are white, boldly marked with red blotches and spots, which are larger and more numerous round the larger end. In size and shape they resemble the eggs of the Crested Titmouse, but are much more boldly and richly marked than any Titmouse egg in my collection. In size they vary from 0·64 by 0·48 to 0·67 by 0·52 inch.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂. Algerian Sahara (Loche).

E Mus. Brit.

a, ♂ ad. Algerian Sahara (Loche).

E Mus. W. Rothschild.

a, ♂. Oued Makroun, Tunis, March 24th, 1892; b, ♂. Oued Nakhla, Tunis, May 3rd, 1892 (W. H. Spatz).



J. G. Keulemans del.

Mintern Bros. imp.

1. BROWN ACCENTOR.
ACCENTOR FULVESCENS.
2. BLACK-THROATED ACCENTOR
ACCENTOR ATRIGULARIS.

ACCENTOR FULVESCENS.

(BROWN ACCENTOR.)

Accentor fulvenscens, Severtzoff, Turk. Jevotnie, pp. 66, 132 (1873).

Accentor dahuricus, Taczanowski, Bull. Soc. Zool. France, 1876, p. 144.

Accentor montanellus (nec Pall.), Hume, Str. Feath. iii. p. 220 (1875).

Accentor ocularis, Radde, Orn. Caucas. p. 244, pl. xiv. (1884).

Tharrhaleus fulvenscens (Severtzoff), Oates, Faun. Brit. Ind., Birds, ii. p. 171 (1890).

Figureæ notabiles.

Radde, Orn. Cauc. pl. xiv.; Gould, B. of Asia, part xxiii. (as ♀ of *A. montanellus*).

Ad. corpore suprâ pallidè cinereo-fusco, plumis centraliter nigro-fuscis, pileo nigro-fulvido : striâ superciliari usque ad nucham ductâ, loris, capitis lateribus et regione paroticâ nigris : remigibus et rectricibus fuscis, extûs pallidiore marginatis : mento et gulâ albis : corpore reliquo subtûs cervino, hypochondriis griseo-fusco lavatis : rostro nigro-fusco : pedibus carneo-fuscis : iride fuscâ.

Adult Male (Vernoï, January 22nd). Crown warm blackish brown ; a broad superciliary streak extending from the base of the bill to the nape white ; lores, sides of the head, and ear-coverts black ; upper parts generally pale greyish brown, darker near the shaft of the feathers ; wings and tail brown, with paler margins to the feathers ; chin and throat white, rest of the underparts creamy buff, washed with dull greyish brown on the flanks : bill blackish brown ; legs fleshy ; iris dark brown. Total length about 5·5 inches, culmen 0·5, wing 3·05, tail 2·6, tarsus 0·8.

A female from the Nobra Valley, shot on the 24th June, resembles the male, but the colours are duller and the superciliary stripe is smaller ; and a male from the Karakash Valley obtained in October is very pale in general coloration, though otherwise not differing from the other specimens. Dr. Severtzoff when he worked at my collection marked on the label of this specimen "*A. fulvenscens*, var. *pallidus*." Autumn-killed specimens in the British Museum are paler and duller owing to the light margins to the feathers, and the underparts are warm clay-buff in tone of colour.

THE range of the Brown Accentor extends from the Caucasus to Eastern Mongolia and Thibet, and from Siberia to Gilgit and Sikhim. Dr. Radde obtained it only once in the Caucasus, in the eastern part of the Kûs-jurdi, at an altitude of 8000 feet, the specimen, a male, having been shot in June ; and Dr. Radde believing it to be undescribed, figured and described it (*l. c.*) under the name of *Accentor ocularis*.

I do not find any record of its occurrence between the Caucasus and Turkestan, though it is probably to be met with in suitable localities in the intervening countries.

In Turkestan, according to Dr. Severtzoff, it occurs both in the winter and also during the breeding-season. Mr. Scully met with it in Eastern Turkestan, where he observed it, he says (Str. Feath. iv. p. 155), pretty frequently between Toghrasu and Gulgun Shah, at elevations of

from 11,000 to 13,000 feet. They were usually seen in pairs, and frequented the bushes growing near the banks of the Karakash River.

According to Professor Menzbier (Ibis, 1885, p. 356) one was obtained in October near the Upper Uital, Upper Tarim; a male was obtained by the brothers Grum-Grzimalo at Umkan-gol in the Tian-shan, and numerous specimens in the Karlyk-tagh (Ortam and Chotun-tam) and at Pjan-do-go and Matisse in the Nian-shan.

Dr. Severtzoff states (Ibis, 1883, p. 64) that it breeds in the Alai Mountains and in some parts of the Pamir; the young were found near Ran-kul at 12,000 feet in the middle of August, and they were common near the sources of the Kashgar Darya, between 11,000 and 13,000 feet, at the end of July. According to Sharpe (2nd Yark. Miss. p. 98) Dr. Stoliczka first identified this *Accentor* as new in his 'Diary,' on shooting one near Sháhídúla on the 19th of October. Colonel Biddulph procured specimens at Tám on the 25th of October from 6000 to 8000 feet, and at Aktala on the 22nd of March, and he found it in the lower hills coming down from Sanju and going up to the Pamir, and it was numerous in the Kulustan Valley. Eastward it ranges into Mongolia. Col. Prjevalsky says that he found it throughout the portion of Mongolia he visited, with the exception of Ganssu. In the Gobi, Alashan, Zaidam, and Northern Thibet he met with it in the winter. It breeds, he adds, in the Alpine regions of Alashan. According to Mr. Pleske (Wissensch. Result. Przew. Reis. ii. p. 145) *Accentor fulvescens* appears to be very common in Central Asia, as Prjevalsky met with it in all parts of the countries explored by him, eastward to the northern portion of the province of Ganssu. Probably it is resident in all the mountain country of Central Asia and only avoids the desert. Even in the northern portion of its range, in the Tian-shan, it was met with by Prjevalsky in October and November, and was then probably in its winter-quarters. He states that it was not uncommon on the Juldus, in the Valley of Chaidu-gol, and in Dzungaria, as, for instance, between Barkul and Chami, and on the mountain-range of Dshair. In the mountain oases of the Central-Asiatic desert it also occurs in tolerable numbers. In the winter it was observed in the Churchu Mountains, and numerous during the breeding-season on the Nian-shan. Prjevalsky met with it also in the valley of the upper course of the Chuanche, and in Eastern Turkestan, in the Russki Mountains and in the Keria mountain-range. In Thibet it is recorded from the Burchan-Buda Mountains to the Blue River (Murui-ussu). In Ganssu it inhabits the woodless frontier mountains to Alashan, and in small numbers the southern Kuku-nor Mountains.

It winters in Gilgit and Sikhim. Col. Biddulph and Mr. Scully both record it as common in the former country, and the latter gentleman remarks that it is only found there in winter, and is common from the first week in October to the third week in March. Mandelli also obtained it in the country north of Sikhim in the winter season.

Dr. Sharpe (Cat. B. Brit. Mus. vii. p. 655), referring to an *Accentor* from Irkutsk, remarks that it appears to belong to the present species, and not to *A. montanellus*; and the late Dr. Taczanowski states (Sib. Orient. p. 220) that Dybowski and Godlevski met with it on the Argun River in Dauria in March and April in 1873, these being the only records to date of its occurrence in Siberia.

So far as I am aware, nothing is known respecting the breeding-habits of the Brown

Accentor, but its nest and eggs in all probability will be found to resemble those of *Accentor montanellus*.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Vernöi, Turkestan, January 22nd (*Severtzoff*). *b*. Karakash Valley, October 12th; *c*, ♀. Nobra Valley, June 24th (*Col. S. Biddulph*). *d*, *e*, ♂. Ortyu-tam, January 31st, 1890; *f*, ♂. Chotun-tam, February 3rd, 1890 (*Grum-Grzimalo*).

ACCENTOR ATRIGULARIS.

(BLACK-THROATED ACCENTOR.)

Accentor atrigularis, Brandt, Bull. Acad. St. Pétersbourg, ii. p. 140 (1844).

Accentor huttoni, Moore, Proc. Zool. Soc. 1854, p. 119.

Tharrhaleus atrogularis (Brandt), Nazaroff, Recherch. Zool. des Steppes des Kirguiz, p. 23 (1886).

Tharrhaleus atrigularis (Brandt), Oates, Faun. Brit. Ind., Birds, ii. p. 170 (1890).

Figura unica.

Gould, B. of Asia, part x.

Ad. pileo fusco-cinereo, lateribus nigris: dorso cum scapularibus cinereo-fuscis, plumis centraliter nigro-fusco notatis: uropygio cum supracaudalibus fere omninò fuscis: alis fuscis, remigibus extùs angustè pallidiore marginatis, secundariis et tectricibus magis fulvido-fusco marginatis: rectricibus saturatè fuscis, extùs pallidè fusco marginatis: corpore subtùs cervino: gulâ, lorìs, capitis lateribus sub oculis et regione paroticiâ nigris: striâ superciliari usque ad nucham ductâ rufescenti-cervinâ: colli lateribus schistaceo-cinereis: hypochondriis indistinctè fusco striatis: abdomine centraliter albo: rostro nigro, ad basin flavo-carneo: pedibus carnis: iride fuscâ.

Adult Male (Tschimkent, autumn). Centre of the crown ashy brown, sides of the crown black; back and scapulars ashy hair-brown, with clearly defined blackish-brown centres to the feathers; rump and upper tail-coverts almost uniform hair-brown, the feathers being rather darker near the shaft; wings brown, with narrow pale brown margins to the primaries; the secondaries and wing-coverts broadly margined with fulvous brown; tail-feathers dark brown, with narrow external pale brown margins; underparts generally warm clay-buff; throat and the lores, sides of the head below the eye, and the ear-coverts black; superciliary stripe from the base of the bill, extending over the eye to the sides of the nape, warm clay-buff; sides of the neck slate-grey; flanks obscurely striated with pale brown; centre of the abdomen nearly white: bill blackish brown, fleshy at the base; legs fleshy brown; iris dark brown. Total length about 5·6 inches, culmen 0·5, wing 2·95, tail 2·7, tarsus 0·82.

A female obtained at Ssaissansk in October does not differ from the male above described, except that it is a trifle duller in tone of colour. Winter specimens have the black on the throat obscured by buffy-white margins, and those in the summer dress have the black purer and deeper in tone of colour, and extending over a rather larger area. A male in the British Museum, obtained in Turkestan by Severtzoff on the 14th March, has the underparts much whiter than in the other specimens I have examined, and the black on the throat and sides of the head is very deep in colour and almost pure; the streak over the eye is pure white, not extending in front of the eye; the forehead, lores, and all the space in front of the eye being pure black.

UNTIL quite recently this *Accentor* was not known to occur within the limits of the Western Palearctic Region, but there is now no doubt of its having been obtained in Russia in Europe, for

Professor Menzbier, of Moscow, writes to me that a large flock, numbering fully 150 individuals, of this Accentor was observed in 1888 near Orenburg from the 23rd of November to the 25th of that month. A pair was obtained on the 27th of November, 1888, near the river Metchetka; a male was shot on the 6th April, 1885, near Orenburg, and another on the 7th November, 1887. According to Nazarov (Rech. Zool. des Steppes des Kirguiz, p. 33) it occurs on the Kirghis Steppes during migration. Seeböhm records it from Samarcand; Col. Swinhoe (Ibis, 1882, p. 110) obtained it at Quetta; and Dr. Severtzoff records it as found both in the breeding-season and in the winter in Turkestan. It was obtained by the brothers Grum-Grzimaïlo in the Karlyk-tagh (Ortam, Chotun-tam, and Bagdasch); Professor Menzbier states (Ibis, 1885, p. 356) that Messrs. Majeff and Wilkins procured a male on the 20th of October near the Upper Uïtal, Upper Tarim; and Mr. Scully states (Str. Feath. iv. p. 155) that one was brought to him at Kashgar, and was said to have been captured in the neighbouring hills. According to Col. Biddulph (Ibis, 1881, p. 75) it is tolerably common at Gilgit in the winter, leaving about the 23rd of March; and Mr. Scully writes (*tom. cit.* p. 569) that the present species is "a winter visitant only to the main valley of Gilgit, arriving about the middle of October and leaving in the third week of March. The birds are usually found in pairs, and are not very shy. I have shot specimens of this Accentor in orchards, where they were running about on the sward near rose-bushes; when alarmed in such situations they occasionally seek shelter on the lower branches of small fruit-trees."

Mr. Oates (Faun. of Brit. India, Birds, ii. p. 171) gives its range as "the Himalayas, from Afghanistan and Gilgit to Garhwâl. Jerdon records this species from the Punjab Salt-Range. This Accentor is a winter visitor to the Himalayas, summering in Turkestan and other parts of Central Asia."

According to Mr. Pleske (Wissensch. Result. Przew. Reis. ii. p. 146) this Accentor was observed by Przevalsky in the first half of September 1876 and in June 1877 in the fir-woods on the Zanna River, where it probably nests. It was not uncommon on the Ssairam-nor in September 1877, as also in the western mountainous portion of Dzungaria. In 1879 the first arrivals were observed on the 7th of March in Ssaissansk, but the main body passed about the middle of the month. Early in April stragglers were met with on the lower course of the Urungu River.

We now know that its range extends from the Ural to Eastern Turkestan, and from the Altai Mountains down to the Punjab; but respecting its habits I find no information on record beyond what I quote above, and its nest and eggs are, so far as I can ascertain, as yet unknown.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E. Mus. H. E. Dresser.

a, ♂. Tashkend, autumn (*Severtzoff*). *b*, ♂. September 16th, 1878; *c*, ♀. September 18th, 1878, Ssaissansk (*Kolomeitzeff*).



J. J. Keulemans del. et lith.

Mintern Bros. imp.

1. MACEDONIAN LONGTAILED TITMOUSE.

ACREDULA MACEDONICA

2. CAUCASIAN LONGTAILED TITMOUSE.

ACREDULA CAUCASICA.

ACREDULA MACEDONICA.

(MACEDONIAN LONG-TAILED TITMOUSE.)

Acredula macedonica, Salvad. & Dresser, Bull. B. O. Club, vol. i. p. xv (1892).

Figura adhuc nulla.

♂ *ad.* fronte et parte mediâ pilei usque ad occiput albidis: lateribus pilei a rostri basi usque ad cervicem latissimè nigris: dorso et corpore suprâ sicut in *A. roseâ*: genis albidis fusco variis: gulâ albidâ in medio plagâ fuscâ ornatâ, et a pectore fasciâ pectorali transversâ nigricante divisâ: gastræo reliquo albido, lateribus, abdomine imo et subcaudalibus roseo indutis: alis et caudâ sicut in *A. roseâ* coloratis.

Adult Male (Olympus, November 3rd). Upper parts as in *Acredula rosea*, but the black bands on the sides of the crown are conspicuously broader and extend to the base of the bill; underparts white; sides of the throat faintly striated with grey, and a narrow blackish-grey band passes across the breast, the throat being also faintly marked with dark grey; flanks washed with rose: bill and legs black; iris dark brown. Total length about 5.5 inches, culmen 0.3, wing 2.4, tail 3.5, tarsus 0.6.

THIS species is as yet only little known, there being, so far as I can ascertain, but one specimen, the type, existing in any collection, unless there are examples in the Museum at Athens. I received it many years ago from Dr. Th. Krüper, who obtained it on Mount Olympus, and I then regarded it as probably an individual variety; and as it was the only Long-tailed Titmouse I had seen from Greece, I tried, though ineffectually, to obtain more specimens. Some years ago I showed it to Count Salvadori, and he at once pronounced it to be a good species, and urged me to describe it, which, however, I was loth to do, only having examined the one specimen. When he again visited England in 1892 he urged me so strongly to lose no time in publishing a description of the bird, that I handed it over to him and proposed that he should describe it, which, however, he would not do, so we agreed to describe it conjointly, which we eventually did.

So far as I can ascertain, this species is confined to Greece. Both Lindermayer and von der Mühle speak of a Long-tailed Titmouse as found in the winter in Greece, and breeding in Roumelia and Akarnania, which is probably the present species; and Dr. Krüper (Griech. Jahresz. p. 208) states that the Long-tailed Titmouse is a resident in Greece, and breeds early in April or late in March. Messrs. Elwes and Buckley, who wrote (*Ibis*, 1870, p. 199) that they obtained examples both in Macedonia and Bulgaria which agreed exactly with British specimens, must undoubtedly have procured the present species and not *A. rosea*. These specimens have unfortunately been lost or mislaid, and I have therefore been unable to confirm this by comparison.

The specimen figured and described is the type, and is in my own collection.

ACREDULA CAUCASICA.

(CAUCASIAN LONG-TAILED TITMOUSE.)

Acredula caudata, Radde, Orn. Caucas. p. 143 (1884, partim).

Mecistura irbyi, subsp. *caucasica*, Lorenz, Beitr. Orn. Faun. Nords. Kauk. p. 60, Nachtrag (1887).

Acredula caucasica (Lorenz), Dresser, Ibis, 1893, p. 242.

Figura nulla.

♂ *ad.* pileo albo, fronte rufescenti-brunneo notatâ : striâ superciliari suprâ rufescenti-brunneâ et subtùs nigrâ : dorso pallidè schistaceo-griseo, in parte superiore saturatiore : uropygio et supracaudalibus pallidè schistaceo-griseis, his vix rosaceo tinctis : caudâ et alis sicut in *A. tephronotâ* coloratis : corpore subtùs albo, pectoris lateribus griseo notatis : rostro et pedibus nigris : iride fuscâ.

Adult Male (Kuban). Crown white, the forehead marked with reddish brown; superciliary stripe reddish brown above and blackish brown below; back pale slaty grey, darker on the upper portion; upper tail-coverts grey, faintly tinged with rose; wings blackish, the secondaries narrowly margined with white; tail as in *A. tephronota*; underparts white, faintly marked with grey on the sides of the breast: bill and feet blackish; iris brown. Total length about 5·3 inches, culmen 0·30, wing 2·5, tail 3·35, tarsus 0·64.

Adult Female (Tiflis). Does not appreciably differ from the male.

So far as I can ascertain, the present species is confined to the Caucasus; but it is most difficult to define its precise range, as it has been until quite recently confused with allied species. It was first obtained on the northern slopes of the Caucasus by Mr. Lorenz, who observed that it differed from the Common Long-tailed Titmouse, and described it as a form of *Acredula tephronota*, from which, however, it is very distinct, as it lacks the blackish patch on the throat, and has the superciliary stripes on the sides of the crown reddish brown on the upper part and blackish brown on the lower part, and the centre of the crown pure white. Dr. Gustav Radde has obtained it at Lenkoran and at Tiflis, and it is probably to be met with throughout the Caucasus, possibly ranging eastward into Transcaspia. I am indebted to Dr. Gustav Radde for three specimens from the Caucasus, all of which agree closely with the specimen I have figured and described. There appears to be little doubt that Dr. Radde (Orn. Cauc. p. 143) refers to this species under the name of *Acredula caudata*, as he remarks that in his specimens the superciliary stripe is indistinct and blackish brown, and in two specimens it is dull greyish rufous-brown. He also remarks that in some of his specimens of *Acredula tephronota* the superciliary stripe, instead of being black was of a light brownish-grey colour washed with reddish white, so that it is possible that his remarks there also may, to some extent, refer to the present species, especially as he adds that the spot on the throat was very indistinct. The measurements

given by Dr. Radde of the males of his *Acredulæ* are as follows:—*Acredula caudata*: culmen 0·2 inch, wing 2·45 to 2·55, tail 3·60 to 3·68, tarsus 0·55 to 0·60; *Acredula tephronota*: culmen 0·2, wing 2·3, tail 2·7, tarsus 0·6; and *Acredula tephronota*, var. *major*: culmen 0·2, wing 2·35 to 2·40, tail 3·2 to 3·25, tarsus 0·6. The three males of *Acredula caucasica* in my collection measure as follows:—Culmen 0·25 to 0·30 inch, wing 2·40 to 2·52, tail 3·10 to 3·35, tarsus 0·60 to 0·64.

I find nothing on record respecting the habits and nidification of the present species, but it doubtless does not differ therein from its near allies *Acredula caudata* and *Acredula tephronota*.

The specimen figured and described is in my own collection.

There is no specimen of *A. caucasica* in the British Museum, and the only specimens I have been able to examine in the preparation of the above article are the following:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kuban (*Tschusi zu Schmidhofen*). *b*, ♂. Lenkoran, December 1879 (*Dr. G. Radde*). *c*, ♂. Tiflis, December 1894 (*Dr. G. Radde*). *d*, ♀. Tiflis, January 22nd, 1894 (*Dr. G. Radde*).





1 INDIAN GREY TITMOUSE.
PARUS ATRICEPS.
2. BOKHARAN GREY TITMOUSE.
PARUS BOKHARENENSIS.

Mintern Bros. imp.

PARUS CINEREUS.

(INDIAN GREY TITMOUSE.)

Le Mésange grise à joue blanche, Levaill. Ois. d'Afr. p. 170, pl. 139. fig. 1 (1802).

Parus cinereus, Vieill. Tabl. Encycl. et Méthod. ii. p. 506 (1820, ex Levaill.).

Parus atriceps, Horsf. Trans. Linn. Soc. xiii. p. 160 (1822).

Parus nipalensis, Hodgson, Ind. Rev. 1838, p. 31.

Parus schistinotus, Hodgs. in Gray's Zool. Misc. p. 83 (1844).

Parus cæsius, Tickell, fide Jerdon, B. of Ind. ii. p. 278 (1863).

Ram-gangra, Beng.; *Boorung-glatek-batoo*, Clupau, Javan.

Figuræ notabiles.

Levaillant, ut suprâ; Temm. Pl. Col. 207. fig. 2; Gould, B. of Asia, part x.

Ad. pilei, nuchæ et colli lateribus, mento, gulâ et vittâ pectorali usque ad abdomine productâ saturatè nigris: nuchâ mediâ, regione paroticâ et suboculari albis: dorso et uropygio schistaceo-cinereis: dorso superiore vix viridi-sulphureo tincto: remigibus nigricantibus, in pogonio externo albido et cinerco marginatis: tectricibus alarum majoribus conspicuè albo apicatis: rectricibus centralibus schistaceo-cinereis, lineâ nigrâ mediâ notatis, reliquis in pogonio interno nigricantibus et in pogonio externo schistaceo-cinereis, extimis pogonio externo et in pogonio interno ad apicem albis: corpore subtùs albo: rostro nigro: pedibus plumbeis: iride fuscâ.

Adult Male (Germab, March 4th). Crown, sides of the nape and lower neck, chin, throat, and a broad stripe on the middle of the breast extending to the abdomen deep glossy black; centre of the nape, cheeks, and ear-coverts white; back and rump slaty blue-grey; the upper back faintly tinged with apple-green; quills blackish, externally margined with greyish white and blue-grey; larger wing-coverts broadly tipped with white; median rectrices slaty blue, with a black line along the shaft, remaining rectrices blackish on the inner web and slate-blue on the outer web, the outermost with the outer web and terminal portion of the inner web white; underparts, except as above stated, white: bill black; legs plumbeous; iris dark brown. Total length about 5·3 inches, culmen 0·5, wing 2·9, tail 2·5, tarsus 0·8.

The female does not differ from the male in plumage, but the young have the upper parts tinged with yellow and the underparts with buff.

THE range of the Indian Grey Titmouse is very extensive, as it is found from Transcaspia in the west to China in the east, and from the Himalayas down through the Malay Peninsula to the islands of the Malay Archipelago.

It is not included in the list of Transcaspian birds by Mr. Zarudny, but it appears to me that his *Parus bocharensis*, var. *intermedius*, of which I have not had an opportunity of examining a specimen, will prove to be the present species, as he remarks that it inhabits the mountains exclusively; and Messrs. Radde and Walter, who met with it in Transcaspia, only observed it in

the mountains, near the brooks, and in the gardens of the Kopepet-dagh. In Germab, they say, it was common, and did not differ in note or habits from *P. major*. I am indebted to Dr. G. Radde for a specimen from Transcaspia which is certainly a typical *Parus cinereus*. It was not observed in Persia by Mr. Blanford, but Major Wardlaw-Ramsay found it common and breeding in May and June in Afghanistan. Dr. Henderson (Lah. to Yark. p. 230) records it as common in Kashmir, and says that he obtained several specimens in the Sind Valley in June and also in October; and Col. Biddulph obtained it in Gilgit in March and June. In India, according to Mr. Oates (Faun. of Brit. India, Birds, i. p. 48), it is found "throughout the whole of India, alike in the hills and plains, but more commonly in the elevated and well-wooded parts. In the Himalayas this Tit is found at all altitudes up to 9000 feet or more, from Hazára and Gilgit to Assam. It extends through the peninsula down to Cape Comorin and into Ceylon, the only portion from which it appears to be absent being Sind and Cutch. From Assam its range extends down to Tenasserim, where, however, it is noted by Davison as being rare. On the eastern borders of Burma *Parus minor* is found; but a bird procured near Bhamo by my collector was *P. cinereus*, and so apparently is a young bird obtained by Anderson near the same locality and now in the British Museum."

In Ceylon it is, according to Col. Legge (B. of Ceylon, p. 558), "very numerous in all the hill-districts, frequenting the highest parts of the main range and other forests above 3000 feet more abundantly than those of lower altitude. It is scattered over all the forest districts of the low country, but is not common near the sea. I met with it in most parts of the eastern side of the island and in the north-central jungles; and Mr. Parker informs me that it is common about Uswewa, in the Puttalam district. In the neighbourhoods of Colombo and Galle I have found it during both monsoons, but mostly in the cool season, and I believe that it is an occasional visitant only to those places. In the Morowak and Kukkul Korales, and likewise in the Saffragam and Pasdun Korale jungles, it is common, and probably visits the coast region from these localities. I never observed it close to Trincomalie, although it is tolerably frequent further inland."

To the eastward it ranges into Southern China, where it meets with *Parus minor*, with which species it is supposed to interbreed and to have produced an intermediate race (*Parus commixtus*, Swinhoe, Ibis, 1868, p. 63); but Mr. Oates says that he does not believe this to be the case, as every specimen he has examined from Southern China was referable either to *P. minor* or to *P. cinereus*. The former, he remarks, "is found as far west as Karennee and the Salween district of Tenasserim in a form almost as typical as Japanese specimens, and the latter in Amoy as typical as Southern-Indian birds or those from Java."

There is a specimen of *Parus cinereus* in the British Museum from Fokien, in China; and Mr. De la Touche (Ibis, 1892, p. 418) met with it at Foochow, where it is, he remarks, much less common than *Parus minor*.

It is found on the Malay Peninsula. Lord Tweeddale received it from Lampong, in S.E. Sumatra, and there are specimens in the British Museum from Java, Flores, and Lombock.

In its habits the Indian Grey Titmouse is said to resemble *Parus major* more closely than any of the other Titmice. Referring to its habits as observed by him in Ceylon, Col. Legge writes as follows:—"This interesting little bird, like its European congeners, possesses a restless

and inquisitive disposition, and is a most diligent worker when in search of its insect food. It consequently frequents a variety of situations, and intrudes itself upon the notice of the most casual observer. In the hills it is found in pairs, or two or three together, in forest, thick jungle, and patna-woods; it is likewise common on estates, the well-known coffee-bushes affording it such a welcome shelter that it appears to live permanently amongst them; thence it makes casual raids upon the neat little gardens attached to so many bungalows, and deals destruction to the buds and young shoots. In the low country it resides chiefly in forest; but its wandering disposition brings it often into the vicinity of habitations, where it locates itself for the time being in the shady compounds and pleasant groves among which the villagers pass their existence. There it frequently resorts to the heads of the cocoanut-trees, searching among their flowers and at the bases of the broad fronds for the numerous insects which affect these favourite situations. On the Horton-Plain woods, where it is common, it delights in the moss-covered trunks and limbs of the rather stunted timber-trees of that elevation, and attentively scrutinizes every nook and cranny in quest of its morning meal. While hopping about the branches of trees it gives out a sharp two-note whistle, and repeats it for a considerable time, after the manner of its European relative. I am not aware whether it has the interesting habit of tapping branches in the same style which must be familiar to all who have observed our Great Tit in England during the autumn and winter. No little bird can possess a more thoroughly busy and at the same time contented air than this one, when he is diligently working away at the branch of some fine old apple-tree, making his well-directed blows heard at a considerable distance from his perch."

According to Mr. Hume (Nests and Eggs of Ind. B. 2nd ed. i. p. 31) this Titmouse breeds throughout the more wooded mountains of the Indian Empire at elevations of from 4000 even up to 9000 feet, the breeding-season being in the Himalayas from the end of March to the end of June, or even a little later according to season, and in the Nilghiris from February to May, and probably, he adds, they breed a second time in September or October. The nests are placed in holes in banks, trees, or walls, and frequently the old nest-holes of Barbets and Woodpeckers are utilized, and occasionally the nest is built on a branch of a tree. The nest is constructed of soft hair, moss, and feathers, and occasionally also of dry grass; and the eggs, usually from five to six in number, are white blotched with light red, the blotches frequently collected and forming a zone at the larger end. Mr. Hume states that "the eggs resemble in their general character those of many of our English Tits, and though, I think, typically slightly longer, they appear to me to be very close to those of *Parus palustris*. In shape they are a broad oval, but somewhat elongated and pointed towards the small end. The ground-colour is pinkish white, and round the large end there is a conspicuous, though irregular and imperfect, zone of red blotches, spots, and streaks. Spots and specks of the same colour, or occasionally of a pale purple, are scantily sprinkled over the rest of the surface of the egg, and are most numerous in the neighbourhood of the zone. The eggs have a faint gloss. Some eggs do not exhibit the zone above referred to, but even in these the markings are much more numerous and dense towards the large end. In length the eggs vary from 0.65 to 0.78, and in breadth from 0.5 to 0.58; but the average of thirty-eight is 0.71 by 0.54."

Mr. Rhodes W. Morgan, who found this species breeding in Southern India, says (Ibis, 1875,

p. 322) that it “breeds in March and April in holes of trees, laying from two to four eggs, which are white with a few pink spots at the larger end. The nest is composed entirely of soft fur. This little Tit may frequently be seen in the vicinity of stables, in the breeding-season, where it comes for the sake of the horse-hair which is thrown out after the horses are groomed in the morning. I have found many nests entirely composed of this substance, with a few stray bits of wild cat’s dung.”

The specimen figured is the male above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Germab, Transcaspia, March 4th (*Dr. G. Radde*). *b*, ♀ *juv.* Lonamurg, July 17th (*Col. J. Biddulph*).
c, *ad.* Bhotan Doars, February 1876; *d.* Dhurmsala, May 1870; *e.* Kumaon, 1868 (*W. E. Brooks*).
f, ♂ *ad.* Coonoor, February 10th, 1872; *g.* Murree (*Col. J. Biddulph*).

PARUS BOKHARENSIS.

(BOKHARAN GREY TITMOUSE.)

Parus bokharensis, Licht. in Eversm. Reise n. Buchara, p. 131 (1823).

Parus bochariensis, Licht., Severtzoff, J. f. Orn. 1873, p. 346.

Parus boccharensis, Licht., Gadow, Cat. B. Brit. Mus. viii. p. 16 (1883).

Parus bocharensis typicus, Zarudny, Bull. Soc. Mosc. iii. p. 789 (1890).

? *Parus bocharensis*, var. *intermedius*, Zarudny, ut suprà (1890).

Figura nulla.

Ad. P. cinereo similis, sed major, colli lateribus albis nec nigris et dorso conspicuè pallidiore, faciliè distinguendus.

Adult Male (Dzungaria). Upper parts pale blue-grey, much paler than in *P. cinereus*; crown and sides of the nape glossy black; centre of the nape white; quills blackish, on the basal portion margined with blue-grey, and on the terminal portion with white; secondaries and larger wing-coverts broadly margined with greyish white; central tail-feathers blue-grey, the outermost rectrix white, margined with blackish on the inner web, the next with the outer web white and the inner web blackish tipped with white, the remaining tail-feathers blackish; underparts white, with a broad central black band extending along the breast and abdomen, and the chin and throat deep black: beak black; legs plumbeous; iris dark brown. Total length about 6·7 inches, culmen 0·55, wing 3, tail 3·35, tarsus 0·85.

Adult Female (Tedgend). Does not differ from the male in plumage, but is a trifle smaller in size.

THIS pale large form of *Parus cinereus* inhabits Transcaspia, Afghanistan, and Turkestan. Messrs. Radde and Walter, who found it by no means uncommon in Transcaspia, remark that they met with it only on the lowlands, whereas *P. cinereus* was met with exclusively in the mountains. *Parus bokharensis*, they say, "inhabits chiefly the dense tamarisk-thickets close to the water, but was also met with in the high sand by the Perewalnaja station, and in the salt-lagoons of Molla-kary. On the 1st April we observed it building its nest at Tedgend, and we could see how often the nests were endangered by the floods. The nest was in a rotten poplar (*Populus diversifolia*), and was close to the surface of the rising water. Clearly there were not many suitable nesting-places here, for the birds had been busy elevating their nest by bringing together a mass of tamarisk twigs and leaves, and had in fact raised it eighteen inches." On the Murghab many nests were found in old nest-holes of *Gecinus flavirostris*, and on the 12th April they all contained young. The nest resembles that of the Coal Titmouse, and is composed of fine tamarisk twigs together with the wool of various animals. Zarudny remarks (Bull. Soc. Mosc. iii. p. 789) that in Transcaspia two forms occur, viz.—*Parus bocharensis typicus*, with the characteristics attributed by many authors to *P. bocharensis*, Licht., and *Parus bocharensis*, var. *intermedius*. The former of these, he says, is "tolerably common in the woods along the Tedgend, and usually in those skirting the central part of the Murghab. It is not rare in the gardens of the Merv oasis, and even breeds in the sands skirting the Alikhanoff canal, where

it affects the tamarisk- and saxaul-thickets." On the 15th May he saw near Kara-Bend young birds which had not left the nest many days.

Parus bokharensis, var. *intermedius*, which I take to be *P. cinereus*, is chiefly distinguishable, he adds, "by a white nuchal patch tinged with bright yellow. The dorsal feathers are ashy grey with a tinge of yellowish green, and the breast is white marked distinctly with yellow on the flanks. During the heat of the summer the plumage gets considerably faded, and these differences become so far effaced as to render the varieties most difficult to separate.

"To this species are referable the Titmice which I obtained in 1884 in the valleys of the Karguy-sou, Firousé, and Gujarmaou.

"It inhabits exclusively the mountains and forests which rise from the banks of the Soumbar and Tchandyr. No difference is observable in the habits and note of these two forms."

Mr. Blanford did not meet with *Parus bokharensis* in Persia; but Col. Swinhoe obtained specimens in Afghanistan, at Kandahar, and Khojak, and Severtzoff in Turkestan. Mr. Pleske also received specimens (Rev. Turk. Ornith., p. 13) from Iskander-kul, Kschtut, and Samarcand. Col. Prjevalsky also records this species from Dzungaria, where it was met with in the poplar- and willow-groves on the Urungu and Bulugan Rivers. In its habits, he remarks, it agrees closely with the Great Titmouse, but its note is louder.

In habits the present species is said not to differ from *Parus cinereus*, and like that species nests in holes in trees. Mr. Zarudny remarks (*l. c.*) that he believes it breeds twice in the year, as on the 20th May he found a nest near Dort-Koyou, in Transcaspia, and shot both the birds, and in the female he found an egg which would have been deposited within two days. The nest was in a hole in a saxaul bush, in a small thicket of these bushes growing on the top of a sand hillock. The hole was close to the root of the bush, and the nest consisted of a lot of rotten wood and a few pheasant's feathers.

Mr. Zarudny does not describe the egg, which doubtless resembles that of *Parus cinereus*, but is larger.

The present species is always distinguishable from *Parus cinereus* in being larger, much paler in colour, and in having the white on the sides of the head and neck extending over a much larger area, and usually extending down the sides of the neck to the breast, separating the black on the throat from that on the sides of the nape. In one specimen, however, in my collection from Ferghana a narrow line of black extends across the sides of lower neck, thus connecting the black on the throat with that on the sides of the nape, but in all the rest it is absent. The specimens I have figured show the difference between the two species very clearly.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♀ *ad.* Tedgend, Transcaspia, March 28th (*Dr. G. Radde*). *b*, ♂. Ferghana, December 25th; *c*, ♂. Nukus on the Oxus, August 31st; *d*, ♂. Jany-Darja, October 22nd; *e*, ♀. Mountains on Ugani River, E. Turkestan, January 28th, 1875 (*Severtzoff*). *f*, *g*, ♂. Urungu River, Dzungaria, April (*Prjevalsky*).

E Mus. H. B. Tristram.

a, ♂. Oxus River, August 16th, 1880 (*Severtzoff*). *b*, ♂. Urungu Kiver, Dzungaria (*Prjevalsky*).



PERSIAN COAL TITMOUSE
PARUS PHÆNOTUS

PARUS PHÆNOTUS.

(PERSIAN COAL TITMOUSE.)

Parus ater (nec Linn.), Ménériés, Cat. raisonné, p. 40. no. 92 (1832).

Parus phænotus, Blanford, Ibis, 1873, p. 88.

Parus michailovskii, Bogdanoff, Ptitsui Kavkaza, p. 87 (1879).

Buraja Gaitschka, *Kavkaskaya Gaitschka*, Russian.

Figura unica.

Blanford, E. Persia, pl. xvi. fig. 1.

Ad. pileo, mento et gulâ, et nuchæ lateribus nitentè nigris: plagâ nuchali albâ: dorso et uropygio pallidè olivaceo-brunneis, hoc pallidiore: alis et caudâ brunneis, plumis in pogonio externo olivaceo-brunneo marginatis: tectricibus alarum majoribus et intermediis ad apicem albo punctatis: capitis et colli lateribus, pectore et abdomine mediis albis: hyponchondriis et crisso fulvo-cervinis.

Adult Male (Tiflis, December). Crown, sides of the nape, chin, and throat glossy black; nuchal space pure white; back and rump pale olivaceous brown, the latter paler; wings and tail hair-brown, the feathers externally margined with olivaceous brown; median and larger wing-coverts tipped with white spots; sides of the head below the eye, and of the neck, breast, and centre of the abdomen pure white; flanks and crissum warm brownish isabelline; under wing-coverts and axillaries pure white: bill blackish; legs plumbeous; iris dark brown. Total length about 4·5 inches, culmen 0·53, wing 2·7, tail 2·05, tarsus 0·75.

The female does not differ from the male in plumage, but the young bird has the white portions of the plumage tinged with buffy yellow, the flanks are darker, and the upper parts are duller and darker in tone of colour.

FIRST described by Mr. Blanford from specimens obtained by Sir Oliver St. John in the oak-forests near Shiraz, in Southern Persia, this Titmouse was supposed to be restricted to Persia, but it has more recently been found to inhabit Transcaspia and the Caucasus, and was described from the latter country by Bogdanoff under the name of *Parus michailovskii*, but there is no doubt that this latter is specifically identical with the Persian bird. I have carefully compared two specimens from Tiflis, for which I am indebted to Dr. G. Radde, and a female obtained by Michailovski in the Caucasus, lent to me by Mr. Seebohm, with the type of *Parus phænotus* in the British Museum, and can find no difference either in coloration or size. Dr. Radde (Orn. Caucas. p. 139) very justly unites the two forms, but says that *Parus michailovskii* is, to some extent, a link between *Parus phænotus* and *P. ater*, a view which I cannot endorse. He only met with this Titmouse in the plains and mountains of Central and Eastern Caucasia, and did not procure any examples from the west. On the 29th June, 1864, when in view of the Lapuri glacier, at an altitude of 7000 feet, a continuous rain caused them to halt; he saw a few of these

Titmice climbing about. He had observed them previously where the red beech and *Acer trautvetteri* showed the boundary of the tree-growth. He also met with it at an altitude of 6000 feet, where a few scattered firs (*Abies orientalis*) grew amongst the birches in the Little Caucasus. In the forests of Bukuriani, and higher up wherever there was tree-growth, this species and *Parus palustris* were tolerably numerous. Ménétriés's short note "commune au Caucase," and also Nordmann's (in Démeoff's Voy. iii. p. 189), must certainly, he remarks, refer to the present species. The latter states that it is common in Mingrelia and Abchasia. In the winter, Dr. Radde adds, this Titmouse and *Parus palustris* frequent the lowlying forests, and he found them commoner in the forests of Borshom at this season than in the summer, and it is also numerous at this season in the Talysch lowlands. Michailovski obtained this Titmouse on the Pass of Suram, the Pass of Zacarsk, and Abas-Touman; and Bogdanoff also saw it, he says, near Veden, and it is also said to occur near Lenkoran. Lorenz saw a Titmouse in the Eschkakon ravine on the Bermamit, North Caucasus, in May 1885, which he believes was the present species.

In Transcaspia Messrs. Radde and Walter met with it (Vög. Transcasp. p. 22) in the elevated juniper-groves, especially on the Akdagh, where it is very common; and Mr. Zarudny speaks of it as being very common in the juniper-groves, but often descends into the valleys and gorges. It was observed by him on the River Gjarmaou, Koulkoulaou, and especially numerous in the juniper-forests between Guez-Bachi and Tarharan; and he remarks (Bull. Soc. Mosc. iii. p. 788) that specimens which were obtained between the 20th and 27th of August in the juniper-region in the Eastern Kopepet-dagh were either in moult or had almost completed their moult.

In Persia it was obtained by Sir Oliver St. John in the oak-forests west of Shiraz.

The nest and eggs of this Titmouse are as yet unknown, but will probably be found to resemble those of *Parus ater*, though larger in size.

The specimen figured is the male above described, and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂ ad. Tiflis, December 1886 (*Dr. G. Radde*).

E Mus. Brit.

a, ♂. (Type.) Oak-forest near Shiraz, June 1870 (*Sir Oliver St. John*).

E Mus. H. Seebohm.

a, ♀. Gorge of Zekary, Kirschawetz, Caucasus, November 9th, 1879 (*Michailovski*).



J. G. Keulemans del et lith.

Minuart Bros. imp.

CYPRIAN COAL TITMOUSE.
PARUS CYPRIOTES.

PARUS CYPRIOTES.

(CYPRIAN COAL TITMOUSE.)

Parus cypriotes, Dresser, Proc. Zool. Soc. 1887, p. 563.

Figura unica.

Guillemard, Ibis, 1888, pl. ii.

♂ *ad.* *P. britannico* similis, sed dorso vix sordidiore: plagâ nuchali ferè obsoletâ, nigro in gutture magis extenso facile distinguendus: rostro nigro: pedibus plumbeis: iride saturatè brunneâ.

♂ *juv.* pileo brunnescenti-nigro, dorso vix sordidiore quam in adulto, gutture sordidè fumoso-nigro: genis, colli lateribus et corpore subtùs albidis, cervino-citrino limbatis: hypochondriis paullo brunnescentibus.

Adult Male (Cyprus, May 28th). Most nearly resembling *Parus britannicus* in coloration both on the upper and under parts, but differs in having the nuchal patch almost obsolete, and in having the black on the throat extended much further down: bill black; legs plumbeous; iris dark brown. Total length about 4·2 inches, culmen 0·6, wing 2·3, tail 1·9, tarsus 0·75.

Young (Cyprus, June 18th). Differs from the adult in having the crown brownish black, the throat dull sooty, the white portions of the plumage washed with yellowish buff, and the flanks browner than in the adult: bill brownish black; legs dull plumbeous; iris brown.

THE present species, which is a strongly marked insular form of *Parus ater*, is confined to the island of Cyprus, where, as pointed out by Lord Lilford (Ibis, 1889, p. 322), it was first discovered by the late Mr. Pearse in 1878, and sent to Lord Lilford, who, however, then considered it to be merely a dark race of *Parus ater*; hence it was not described until 1887, when more specimens were sent by Dr. Guillemard, and he then recognized that it was a good species, and forwarded it to me to compare and describe, being himself unable to come to town for that purpose.

The only information we have respecting this interesting Titmouse are the notes published by Dr. Guillemard, who writes (Ibis, 1888, p. 119) as follows:—"A short distance from the Kikko Monastery there was a clump of pines where it was possible to obtain some little shade from a sun which had by this time become unpleasantly powerful. It was while watching, gun in hand, beneath these, that I first obtained a Coal Titmouse, which at once struck me by the extreme darkness of the plumage of the under surface. This little *Parus* was far from plentiful, for I only shot four during my stay at the monastery, although I waited beneath the pines for them the greater part of each morning. I never saw it at a lower elevation than this (4000 feet) or anywhere except on or among the pines. On Troödos it was not uncommon, in small parties of five or six, which followed each other from tree to tree, and occasionally descended to the ground to feed. Its note is a feeble edition of that of *Parus ater*." Messrs. Unger and Kotschy

record *Parus ater* from Cyprus, but doubtless the bird they obtained was not our common European Coal Titmouse, but the present species.

The adult bird described and figured is in my own collection, and the young bird in that of Lord Lilford.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kikko, Cyprus, November 12th, 1878 (*Pearse*).

E Mus. Lilford.

a, b, ♂ *ad.* Kikko Monastery, May 26th and 28th, 1887; *c, juv.* Summit of Troödos, Cyprus, June 18th, 1887 (*Dr. Guillemard*).

E Mus. Brit.

a, ♀. Cyprus, November 13th, 1878 (*Pearse*). *b, ♂, c, ♀.* Kikko Monastery, May 28th, 1887; *d, ♂.* Troödos Camp, April 18th, 1888 (*Dr. Guillemard*).



J. J. Verreaux del.

PLESKE'S BLUE TITMOUSE
PARUS PLESKEI

Mintern Bros. imp.

PARUS PLESKII.

(PLESKE'S BLUE TITMOUSE.)

Parus (Cyanistes) pleskii, Cab. Journ. für Orn. 1877, p. 213.

Cyanistes pleskii, id. op. cit. 1878, p. 109.

Parus pleskii, Cab., Gadow, Cat. B. Brit. Mus. viii. p. 12 (1883).

Parus pleskei, Cab., De Selys, Bull. Soc. Zool. Fr. 1884, p. 69.

Cyanistes pleskei, Cab., Menzbier, tom. cit. p. 259.

Figuræ notabiles.

Cabanis, Journ. für Orn. 1877, pl. iii.; Menzbier, Orn. geogr. Eur. Rossii, pl. i.

Ad. capite et collo sicut in *P. cæruleo* coloratis: dorso et uropygio griseo-cæruleis: alis azureis, secundariis et tectricibus alarum albido apicatis: caudâ azureâ, rectricibus extimis in pogonio externo albis, reliquis albo apicatis: corpore subtus albo, pectore et hypochondriis sulphureo tinctis: pectore centraliter vittâ nigro-cæruleo notato: rostro corneo ad basin pallidiore: pedibus plumbeis: iride fuscâ.

Adult Male (St. Petersburg, September 25th). Crown azure-blue; forehead, cheeks, and a border surrounding the blue on the crown white; lores dark blue and a narrow dark blue line passing through the eye to the sides of the nape, where it joins a broad blue collar which encircles the neck and throat and joins a blue patch which extends over the upper throat and chin; back and rump dull greyish blue; wings bright azure-blue, the secondaries and wing-coverts broadly tipped with white; tail blue, the outer web of the external rectrices white, the rest of the tail-feathers very slightly tipped with white; underparts white, the breast and flanks faintly tinged with primrose, on the centre of the breast a dark blue line: beak horn-blue, paler at the base; legs plumbeous; iris dark brown. Total length about 4·5 inches, culmen 0·4, wing 2·6, tail 2·4, tarsus 0·68.

The female does not differ from the male, and the young bird differs from the adult in being rather duller in tone of colour, and in having the underparts dull white, tinged on the breast and flanks with pale buffy yellow.

THE home of the present species appears to be Northern Russia, west of the Ural range, chiefly in the St. Petersburg and Moscow districts, but it is stated to have been met with as far west as Belgium, as, according to Baron de Selys-Longchamps (Consid. sur le Genre Mésange, p. 39), one was caught by a son of M. Oscar Lamarche, President of the Royal Horticultural Society of Liege, in his garden at Liege in December 1878. Dr. Menzbier says (Les Mésanges bleues, p. 23) that this Titmouse occurs near St. Petersburg in the spring and autumn, and is found throughout the year near Moscow, where it is somewhat rare, except during the two seasons of passage, when it is more numerous. It is probable, he adds, that it nests further north in the Dvina districts, but there are no data on this head. Dr. Gadow states (*l. c.*) that it occurs in

Western Siberia, but there is, as pointed out by Dr. Menzbier, nothing on record to show this to be the case. Nor has it been obtained in the Oufa Government, as stated by Baron de Selys-Longchamps (*op. cit.* p. 38).

Nothing is known respecting the breeding-habits of this Titmouse; but its nest and eggs will doubtless be found to resemble those of *P. cæruleus*.

The present species bears much closer affinity to *Parus cæruleus* than to any of the Blue Titmice, and is intermediate between that species and *Parus cyanus*, having the square tail as in *Parus cæruleus*, and not rounded as in *P. cyanus*; the head and throat as in *P. cæruleus*, but the upper and under parts generally as in *P. cyanus*, except that the latter are generally tinged with pale sulphur-yellow or yellowish buff. In the series I have examined I find some little variation, some specimens approaching nearer to *P. cyanus* than others; thus one of the females in the St. Petersburg collection has the whole of the fore part of the crown, the chin, and the throat white, the blue on the centre of the crown paler than in the other specimens, but otherwise it does not differ from them. According to Dr. Menzbier the present species occasionally interbreeds with *Parus cyanus*, and he gives detailed descriptions of four specimens which he considers to be hybrids between these two species.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* St. Petersburg, September 25th, 1886 (*Pleske*). *b*, ♀ *juv.* Near Moscow, September 21st, 1886 (*Lorenz*).

E Mus. Petrop.

a, ♂ *ad.* St. Petersburg, September 25th, 1886; *b*, ♀ *ad.* St. Petersburg, May 1878; *c*, ♀. St. Petersburg, October 5th, 1887 (*Pleske*).

E Mus. Rothschild.

a, ♂ *ad.* Moscow, November 27th; *b*, ♀ *ad.* Moscow, October 11th (*Prof. M. Menzbier*).

E Mus. H. Seebohm.

a, ♂ *ad.* Moscow, September 25th (*Pleske*).

E Mus. Brit.

a, ♀ *ad.* Moscow, October 12th (*Lorenz*).

PARUS TENERIFFÆ.

(CANARIAN BLUE TITMOUSE.)

Parus cæruleus, var. *teneriffæ*, Lesson, Traité d'Orn. i. p. 456 (1831).

Parus violaceus, Bolle, J. f. Orn. 1854, p. 455.

Parus teneriffæ, Less., Hartlaub, J. f. O. 1855, p. 424.

Parus cæruleus (nec Linn.), Bolle, J. f. O. 1857, p. 284.

Parus teneriffæ, Sharpe & Dresser, B. of Eur. iii. p. 139 (1871, partim).

Figura nulla.

Ad. P. ultramarino similis, sed major : remigibus secundariis et tectricibus alarum nec albo apicatis.

Adult Male (Teneriffe, November 10th). Resembles *Parus ultramarinus*, but larger, rather brighter in tone of colour, and lacking the white borders to the secondaries and wing-coverts, the wing being plain blue. Total length about 4·7 inches, culmen 0·45, wing 2·5, tail 2·15, tarsus 0·8.

The female does not differ from the male in plumage; but the young bird in first plumage has, according to Mr. Meade-Waldo (Ibis, 1889, p. 511), "buff tips to its wing-coverts and no white on the head, the cheeks and forehead being yellow, the black on the throat and neck being scarcely discernible; the back, instead of being blue, is green as in *P. cæruleus*."

WHEN, in 1871, Dr. Sharpe and myself wrote the articles on the Blue Titmice for the 'Birds of Europe,' we held that there was only one species which inhabited the Canary Islands and North-west Africa, and we stated that Dr. Bolle was doubtless in error in his surmise that two distinct species occur in the Canaries; but later research has proved that we were in error, and that not only two, but four distinct species of Blue Titmice are to be met with in those islands, and that the present species is specifically distinct from the Ultramarine Titmouse of North-west Africa, which should therefore bear the name of *Parus ultramarinus* and not *P. teneriffæ*.

The present species is confined to the Canary Islands, inhabiting Gran Canaria, Teneriffe, and Gomera. Mr. Meade-Waldo sent many specimens from Teneriffe; and Canon Tristram, who met with it on Gran Canaria, writes (Ibis, 1889, p. 29) as follows:—"I was surprised to see, at the very summit of the pass, a pair of Tits (*P. teneriffæ*) flitting, almost Creeper-like, among the bushes on the face of the cliff. I secured one of them, the other falling into an inaccessible cranny above our heads. We were here 4300 feet above the sea. This was the highest point where I noticed the Titmouse, but it occurs in small numbers at all the lower elevations down to the coast-line. I had already obtained it among the chestnut-trees near San Mateo; but it is not nearly so numerous in Canaria as in the other islands, in both of which I procured specimens." Dr. Bolle met with it in the islands of Teneriffe and Canaria, where, he says, it is found wherever there is tree-growth or even high bush-growth, but most commonly in the fruit-gardens. He met with it in the Huerta Grande at Chasna, in the Alameda of

the metropolis of Canaria, in the damp willow-covered gorges of Tenteniguada, and in the tall baloge bushes in the extreme south of the island, and in the valleys of Arguineguin and Fatalga down to the sea-coast.

The Canarian Blue Titmouse, like our common British species, places its nest in the hole of a tree or wall, or in a convenient nook or cranny, the nest being similar to that of the latter species, and the eggs are white spotted and blotched with light red, the spots being larger and bolder than in any eggs of *Parus cæruleus* in my collection, and in size they run a trifle larger, if anything, than the eggs of that species. I have received the eggs from Teneriffe, but no nest was sent, so I am unable to describe it, but was informed that it is constructed, like that of our bird, of wool and moss and lined with feathers.

Owing to our having united the two species in the 'Birds of Europe,' the synonymy requires rectification, and that of the continental species, the Ultramarine Titmouse, which inhabits Algeria, Tunis, and Morocco, as also the island of Fuerteventura, will now stand as follows:—

Parus ultramarinus, Bonap. Rev. et Mag. de Zool. 1841, p. 146.

Parus cæruleanus, Malh. op. cit. 1842, p. 76.

Cyanistes ultramarinus, Bp. Consp. Gen. Av. i. p. 229 (1850).

Parus teneriffæ, Sharpe & Dresser, B. of Eur. iii. p. 139 (1871, partim).

The specimen figured in the 'Birds of Europe' (plate 113. fig. 3) represents the true Ultramarine Titmouse (*Parus ultramarinus*), and that now figured on the same plate with *Parus palmensis* shows the Canarian species *Parus teneriffæ*. This specimen, which is the one above described, is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a. Teneriffe, April 1871 (*F. D. Godman*). *b*, ♂. Orotava, Teneriffe, November 10th, 1888 (*Meade-Waldo*).

E Mus. Brit.

a, ♂. Teneriffe, April 8th, 1871; *b*, ♂. Orotava, Teneriffe, April 9th, 1871; *c*, ♂, *d*, ♀. Orotava, April 18th, 1871 (*F. D. Godman*).



W. H. M. del.

Mintern Bros. imp.

WHITE BELLIED TITMOUSE.
PARUS PALMENSIS.
CANARIAN BLUE TITMOUSE.
PARUS TENERIFFÆ.

PARUS PALMENSIS.

(WHITE-BELLIED TITMOUSE.)

Parus palmensis, Meade-Waldo, Ann. & Mag. Nat. Hist. ser. 6, iii. p. 490 (1889).

Figura unica.

Meade-Waldo, Ibis, 1889, pl. xvi.

Ad. P. ultramarino similis, sed abdomine centraliter toto albo: secundariis et tectricibus alarum majoribus albo apicatis, sicut in *P. ultramarino*.

Adult Male (Palma, April 20th). Resembles *P. ultramarinus*, but has the entire abdomen, excepting the sides, pure white; secondaries and wing-coverts tipped with white. Total length about 4.9 inches, culmen 0.45, wing 2.5, tail 2.3, tarsus 0.75.

Adult Female (Palma). Does not differ from the male.

THIS interesting insular form of the Ultramarine Titmouse, differing only from that species in having the whole centre of the abdomen pure white, is confined to the island of Palma, where it is resident. All the information we have on record respecting this Titmouse is contained in the notes published in 'The Ibis' by its discoverer, Mr. E. G. Meade-Waldo, who writes (Ibis, 1889, p. 511) as follows:—"The day following I went out alone, and after shooting several of the new Chaffinch and some Robins, which were of the pale colour of the Gomera Robin, but had the colour on the breast less extended, I had the luck to fall in with a beautiful Tit, quite different from *P. teneriffæ*. I heard its voice first, and at once thought it something new, and after some trouble, for it was in exceedingly thick laurels on an almost perpendicular barranco-side, I shot it, and picked up a Tit like *P. teneriffæ*, only larger and with the whole of the underparts *white*. On comparing it with *P. teneriffæ* I find it has a considerably longer tail and longer tarsi, and invariably white tips to its wing-coverts, but less white on the wing-coverts than the Fuerteventura Tit. . . . The first and last of Palma Tits I killed were the only two I ever saw in the laurel-woods. I never saw any, or heard them, with these exceptions out of the pines, and I think there is no doubt but that the pines are their home: they are common enough in the pine-forests. I looked carefully about all villages, gardens, chestnut-woods, and in all such places as *P. teneriffæ* haunts, but found none. They had bred very early, and had young on the wing on April 16th, even up at an elevation of 5000 feet. At the present time, June 22nd, *P. teneriffæ* had only just laid or is laying in the pines of Teneriffe, in the valleys, however, the young have been on the wing some time. So, at similar elevations, the Palma Tit had bred two months earlier than the Teneriffe Tit—not in one instance only, for I saw three broods of young flying. Three or four seemed the number of young in each instance, and *P. teneriffæ* is much less prolific than our little Blue Tit, as I find five to be its full clutch, and four eggs are as frequently laid as five, and in the high mountains three only are not uncommon."

In November 1889, Mr. Meade-Waldo revisited Palma on his way to the island of Hierro, and writes (*Ibis*, 1890, p. 430) as follows:—"As the steamer was obliged to wait all day, I got a mule and rode up to the mountain where I had procured the first Palma Tit (*Parus palmensis*). Very nearly in the same spot where I shot my first specimen I had the luck to shoot in a few minutes four beautiful examples. They came to a call which I always find very effective in bringing up small birds, viz. imitating the cry of a rabbit that a stoat or ferret has got hold of; all the small birds on hearing it come up and utter their alarm-notes."

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. La Galga, Palma, April 20th, 1889; *b*, ♂, *c*, ♀. Barranca de los Nogales, Palma, April 7th, 1890 (*E. G. Meade-Waldo*).

E Mus. Brit.

a, ♂ *ad.* Palma, November 20th, 1889 (*E. G. Meade-Waldo*).



J. Neulemans del et lith.

Mitern Bros imp.

HIERRAN TITMOUSE.
PARUS OMBRIOSUS

PARUS OMBRIOSUS.

(HIERRAN TITMOUSE.)

Parus ombriosus, Meade-Waldo, Ann. & Mag. N. H. ser. 6, v. p. 103 (1890).

Figura unica.

Meade-Waldo, Ibis, 1890, pl. xiii.

Ad. P. teneriffæ similis, sed fortior et robustior: tergo toto olivaceo-viridescente nec cæruleo: tectricibus alarum viridibus, majoribus angustissime albo terminatis: subtùs citrius, *P. teneriffæ* similis.

Adult Male (Hierro, November 23rd). Resembles *P. ultramarinus*, but has only a band across the fore part of the back slate-blue, the rest of the back and rump being green, darker in tint than in *Parus cæruleus*; primaries narrowly bordered, and secondaries tipped with white. Total length about 4·7 inches, culmen 0·4, wing 2·5, tail 2·25, tarsus 0·75.

Adult Female (Hierro, November 25th). Does not differ from the male.

THE present species adds another to the discoveries made by Mr. Meade-Waldo in the Canary Islands, and is especially interesting as it has the lower back coloured much as in *Parus cæruleus*, whereas in the rest of its plumage it resembles *Parus ultramarinus*. As might be expected, it is an insular form, confined to the small island of Hierro. All that is on record respecting this Titmouse is from the pen of Mr. Meade-Waldo, who writes (Ibis, 1890, p. 433) as follows:—"This Tit adds a fourth to the number found in the Canary Islands, three of which are quite peculiar to the archipelago, and two are peculiar to their own islands. Fuerteventura and Lanzarote have *Parus ultramarinus*, almost indistinguishable from the mainland bird. Grand Canary, Teneriffe, and Gomera have *Parus teneriffæ*, easily known from *Parus ultramarinus* by its brighter colouring and in *never* having white-tipped wing-coverts. The island of Palma has *Parus palmensis*, distinguished by having its underparts *white* instead of yellow, the wing-coverts slightly tipped with white, and the tail and tarsi longer. It has also a differently pitched voice, which can be distinguished at once from the other Tits, and its more slender form and different style show it at once to belong to a different race. Besides, it is confined to the pine-forest, only occasionally coming into the laurels, and apparently frequenting villages and gardens as does *Parus teneriffæ* in the three islands which it frequents.

"*Parus ombriosus* resembles *Parus teneriffæ* in all its ways, except that it lives only in the pine-forest, and occasionally in the tree-heaths and laurels."

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* El Pinal, Hierro, November 23rd, 1889; *b*, ♀. El Golfo, Hierro, November 25th, 1889 (*E. G. Meade-Waldo*).

E Mus. Brit.

a, ♂. El Pinal, Hierro, November 22nd, 1889 (*E. G. Meade-Waldo*).



J. G. Keulemans lith

Harhart imp

CORSICAN NUTHATCH.
SITTA WHITEHEADI.

SITTA WHITEHEADI.

(CORSICAN NUTHATCH.)

Sitta whiteheadi, Sharpe, P. Z. S. 1884, p. 233.

Figuræ notabiles.

Sharpe, P. Z. S. 1884, pl. xxxvi.; Whitehead, Ibis, 1885, pl. ii.

♂ *ad.* pileo, nuchâ, loris et lineâ per oculos ductâ nitide nigris: corpore suprâ pallidè schistaceo-cinereo: remigibus nigricantibus, in pogonio externo schistaceo-cinereo marginatis: rectricibus mediis schistaceo-cinereis versùs apicem nigro notatis, reliquis nigris albo apicatis, duabus externis magis albo terminatis: lineâ superciliari, capitis lateribus et corpore subtùs albis: rostro nigro-corneo, mandibulâ ad basin cæruleâ: pedibus plumbeis: iride fuscâ.

♀ *ad.* sordidior, pileo nec nigro sed saturatè schistaceo-cinereo vix nigro notato.

Adult Male (Corsica, May 27th). Upper parts generally pale slaty blue, crown and nape black; lores and a line passing behind the eye over the ear-coverts also black; superciliary stripe, sides of the head, and underparts generally white; quills blackish, externally margined with slaty blue; median rectrices slaty blue, marked with black near the tip, remaining tail-feathers black, the two external ones broadly tipped with dirty white, the remainder narrowly tipped with white: bill blackish, lighter at the base; legs plumbeous; iris dark brown. Total length about 4·8 inches, culmen 0·7, wing 2·8, tail 1·6, tarsus 0·8.

Adult Female (Corsica, May 27th). Differs from the male in being rather duller in tone of colour, and lacking the black crown, that part being dark slate-grey slightly tinged with black.

THE discovery of the present species is probably one of the most interesting additions to the avifauna of Europe made for many years past, inasmuch as it differs from all the hitherto known species of Nuthatches inhabiting the Western Palearctic Region in having the crown and nape black; and its only near allies are *Sitta canadensis*, which inhabits North America, and *Sitta villosa*, which inhabits Northern China and Eastern Mongolia.

The present species is found only in the island of Corsica, where it was discovered by Mr. John Whitehead in 1883. It is an extremely local species, and Mr. Whitehead has very wisely refused to divulge the exact locality where he obtained it, fearing that if he made it known where it is to be met with, it would soon be exterminated by over-zealous collectors. Hence, though other naturalists have since visited Corsica, and have used every endeavour to obtain specimens, no one has hitherto succeeded in so doing, and we have no information respecting this interesting species beyond what was published by Mr. Whitehead (Ibis, 1885, p. 28), as follows:—"On the 12th June 1883, I left a small village to visit the nest of an Eagle which the shepherds had told me of. Starting at 4 A.M. with a mule and guide (taking

provisions for two days), it was not until 2 P.M. that we reached the summit of the mountain. As it was close upon 6 o'clock before the nest had been visited, I decided to pass the night in a small stone hut (used by the shepherds during the hotter months). The next morning, wishing to get a shot at some Alpine Swifts, which were nesting in a high crag near, I got up early, and when returning heard a curious whistle, which I thought was that of the Crested Titmouse. After I had waited a few minutes a Nuthatch crept out to the end of a pine-bough and was promptly shot. The bird being badly hit in the head, I skinned it at once, and thought no more about it until the month of October, when, wishing to know if I had correctly named a few small Warblers, I brought the skin of the Nuthatch to Mr. Sharpe, who assured me that he did not know the bird. At the end of the month, on the night of my departure, he wrote to me:—'There is no doubt your bird is a new species.'

"It was not until the 9th of May, 1884, that I was able to make another trip. The first day I did not see a sign of the birds; but on the second, after wandering about until past mid-day, without seeing any thing but a few Golden-crested Wrens and European Coal Tits, I heard the same curious whistle, and looking about, soon saw and shot a bird which proved to be a beautiful specimen of the new Nuthatch, the head being jet-black, with well-marked and nearly white eyebrows, the underside of the beak being of a delicate blue, which soon faded after death. Knowing that the mate must be near, I remained quiet, and in a few minutes it shared the same fate; but great was my surprise, on picking it up, to find the black on the head entirely absent, the pale blue of the back running up to the base of the bill; this bird proved to be the female. A few hours later I came across a small band, three of which I shot.

"On the 12th, provisions having fallen short, I was forced to return to my head-quarters; but on the 16th I returned to search for the nests and was most fortunate. The same evening I watched a pair, which I had noticed on my first visit, for some hours, and saw the female go twice to a very small and neatly-pecked hole in a very old pine-stump, some 20 feet from the ground. The following day I saw the male enter twice with nesting-materials.

"It was not until the 20th of May that I found the second nest, and on the following day, whilst going to cut it out, found another, which I opened first. The nests proved in nearly every case to be most difficult of access, the trees being high, very rotten, without branches, and much too big to swarm; the once mighty giants of the forest—now but whitened skeletons, being in the last stage of decay.

"The first nest took nearly three hours' hard work to reach, but once arrived at, was easily cut out; it contained five fresh eggs. The second nest was in a much worse position and quite 40 feet high; but by climbing up a neighbouring tree, with the aid of a rope I managed to swing to a branch, and soon cut open the nest, which contained five fresh eggs.

"During eleven days spent in rambling about hunting for the nests of this species, I found no less than nine, three of which were in holes from 70 to 100 feet from the ground, the trees in places nearly eaten through with decay; so that it would have been foolish to have attempted to reach them.

"This species spends much of its time pecking about at the ends of the pine-branches. When I opened their gizzards they contained many small beetles and other insects. The call-note is a soft whistle, repeated quickly many times, often ending with a peculiar hissing sound,

which sounds like *sch-wer, sch-wer*. They were very fearless when their nest was attacked, the female often entering the nest and refusing to move until the entrance was nearly reached, whilst the male would take up his position a few feet above, examining everything that was going on.

"All the nests found seemed to have been pecked out by the birds themselves, and in no case was clay used to make a hole smaller. The old holes of the Great Spotted Woodpecker were in hundreds in these trees, and though tenanted by Swifts and Titmice, the Nuthatches never used them. The holes were seldom neatly rounded, and in one instance only the sides of a large crack were pecked away. The nest is composed chiefly of strips of bark from the Mediterranean heath (which the birds themselves pull off) and moss, a few feathers, and a small quantity of hair. The sides of the cavity well padded, so as to form a cup.

"The eggs, five or six, when blown, are white thickly speckled with *deep red*; they are about the size of those of the Great Titmouse."

Mr. Whitehead has kindly presented me with a pair of this Nuthatch, and also with two eggs, which latter resemble those of *Sitta krueperi*, but are a trifle smaller and much more boldly and profusely spotted and speckled with dark red.

Sitta whiteheadi differs but little from *Sitta villosa*, the latter species having the black on the crown extended to the upper part of the back, the breast and abdomen being warm buff, and not white, but otherwise they do not differ. *Sitta canadensis* differs in having a black patch on the side of the head which extends over the ear-coverts and part of the sides of the neck, and the whole of the underparts, except the chin, are rusty brown.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂, b, ♀. Corsica, May 27th, 1884 (J. Whitehead).

SITTA SYRIACA.

(EASTERN ROCK-NUTHATCH.)

Sitta syriaca, Ehr. in Temm. Man. d'Orn. iii. p. 286 (1835).

Sitta tephronota, Sharpe, Ann. & Mag. Nat. Hist. 1872, x. p. 450.

Sitta neumayeri (nec Michah.), Dresser, B. of Eur. iii. p. 183 (1872, partim).

Terlsché, Turki (*fide* Radde & Walter).

Figura nulla.

Ad. S. neumayeri similis, sed major, corpore suprâ pallidiore, gulâ et colli lateribus albis isabellino tinctis, striâ in capitis lateribus longiore et magis extensâ.

Adult Male (Puli-Chatum, July 5th). Differs from *Sitta neumayeri* in being larger in size, the upper parts paler, the throat and sides of the neck white with a creamy tinge, and the black stripe along the sides of the head rather broader and extending further down the neck. Culmen 1·02 inch, wing 3·4, tail 2·15, tarsus 1·05.

Six specimens I have measured vary in size as follows:—Culmen 1·0 to 1·55 inch, wing 3·3 to 3·7, tail 2·05 to 2·25, tarsus 1·0 to 1·05.

THIS, the eastern form of our European Rock-Nuthatch, inhabits Transcaspia, Persia, Afghanistan, and Turkestan, and differs from the western form in being larger and paler.

When I wrote the article in the 'Birds of Europe' in 1872, I did not separate *Sitta syriaca* from *S. neumayeri*, but having since examined a larger series I find that the present species is always larger and paler than *S. neumayeri*, and can always be distinguished from that species. It does not appear to range so far west as Asia Minor, for all the specimens I have seen from there are referable to *S. neumayeri*, and, judging from the measurements given by Dr. G. Radde (Orn. Cauc. p. 301), *Sitta neumayeri* alone is found in the Caucasus. In Transcaspia, however, the two forms meet; and Mr. Zarudny states that he met the present form there, and found it very common along the Atrek and the Jagly-Oloun to Douslou-Oloun, where it frequented the rocky ravines bordering these rivers. Messrs. Radde and Walter obtained five specimens in Transcaspia, for one of which I am indebted to Dr. Radde, and state that it was common and resident in the mountains, and also found on the plains, on the steep river-banks, and in the ravines, as, for instance, at Tschat on the Atrek, and it was also observed commonly on the outer spurs of the Elbirin-Kyr. They add that it is a very noisy bird. In Persia, Mr. Blanford met with it near Shiráz, but did not observe it in Baluchistan; and on the rocky hill-sides of the valleys penetrating the Elburz Mountains, north of Tehrán, from about 6000 to 8000 feet above the sea, he found *Sitta neumayeri* common, and **also** obtained a specimen of this, the small form, from Kohrúd near Ispahán, and another from Shiráz.

In the British Museum there are specimens of the present species from the Bolan Pass, Kandahar, Kojuk, and Kashgar. Dr. Aitchison (*vide* Sharpe, Trans. Linn. Soc. 2nd ser., Zoology, v. p. 77) met with it in Afghanistan, where, he says, it was "very common and characteristic of the sandstone rocks in the Badghis."

Severtzoff records it from Turkestan; and Mr. Pleske writes (Revis. Turk. Ornith., p. 42) as follows:—"On the Iskander-kul this species was found breeding; specimens were sent from Kschtut and Margusaar, and it was observed in all parts of the Western Tian-shan where bare rocks occur."

I observe that Dr. Gadow gives Palestine as a locality where this Nuthatch is found; but this I doubt, as I have never seen a specimen from there, and Canon Tristram refers all those in his collection, which he procured in Palestine, to *Sitta neumayeri*.

In habits and nidification the present species appears to assimilate closely with *Sitta neumayeri*. Mr. Blanford says (E. Pers. ii. p. 225) that it "keeps entirely to the rocky parts of the country, and I have myself only observed it upon the hills of nummulitic limestone which occupy so large an area in the neighbourhood of Shiráz. I am inclined to think that I have seen it on the cretaceous limestone a little further north, but I did not observe it in Balúchistán. . . . Its presence, wherever it occurs, is soon made known by its loud voice. It is certainly one of the noisiest of birds, its call consisting of a rapid repetition of one note. Usually it keeps to the rocks, but I have seen it on several occasions settle on trees, and even hunt over the stems like the common Nuthatch; indeed I shot one specimen at Niríz whilst thus occupied. Its food also is partly vegetable, for I found plumstones in the stomach of one bird."

As the present species differs from *Sitta neumayeri* chiefly in size and in the paler coloration of the upper parts, I have not deemed it necessary to figure it.

Since vol. viii. of the 'Catalogue of Birds in the British Museum' (in which the Nuthatches were included) was published, twelve years have elapsed, during which much has been written on this family, and at least two good species have been discovered amongst those inhabiting the Palæarctic Region. It may therefore prove of interest to make a few remarks on what has been written on the subject during these twelve years, confining my observations to those species which occur within that Region.

Sitta europæa, Linn. (Cat. B. Brit. Mus. viii. p. 342). So far as the Western Palæarctic Region is concerned this form alone occurs, and the eastern form, *Sitta uralensis*, Licht., is not found within our limits. I have examined a considerable series from various localities, and find that all are referable to true *S. europæa*. In my own collection I have examples from Scandinavia which have the underparts, excepting the flanks, pure white, and others which have the abdomen tinged with cream-colour. In Siberia, however, and further east to Japan, one finds specimens which have the underparts pure white, the flanks with the chestnut paler, and smaller in size, and others again which have the entire abdomen ochraceous, and these forms have been subspecifically separated by the different authors on Asiatic birds as follows:—

Sitta uralensis, Licht., Gadow, Cat. B. Brit. Mus. viii. p. 342 (*Sitta baicalensis*, Taczanowski, Bull. Soc. Zool. Fr. 1882, p. 383), which differs from true *S. europæa* in being smaller, having the underparts always pure silky white, the chestnut on the flanks paler. Culmen 0·8 inch, wing 3·15, tail 1·7.—*Hab.* Eastern Siberia to the Amoor and the whole of Dauria.

Sitta albifrons, Tacz. (Bull. Soc. Zool. Fr. 1882, p. 385), is characterized by having the forehead and a broad superciliary stripe pure white, and a narrow white band crosses the wings, and the underparts are pure silky white, with but very little chestnut on the flanks. Taczanowski gives the habitat of this form as Kamtschatka; and Dr. Stejneger received a specimen from the Kurile Islands. In my series of Asiatic Nuthatches I have a very typical specimen of this form which was obtained by Mr. H. Whitely at Hakodadi on the 22nd November, 1865. This specimen has a broad white band across the forehead joining the white superciliary stripe, the larger wing-coverts are tipped with white, forming a white band across the wing, the underparts are pure silky white, with but a slight trace of chestnut on the flanks, and there is a large extent of white on the tail. The measurements are: culmen 0·75 inch, wing 3·12, tail 1·75.

Sitta amurensis, Swinhoe (P. Z. S. 1871, p. 350), Gadow, *op. cit.* p. 345. Differs from *Sitta uralensis* in having the abdomen rufescent buff and flanks chestnut.—*Hab.* The Ussuri country from the Amoor to the coasts of the Sea of Japan. Of this form I have two males, obtained by Mr. Jankovski at Sidemi, on the Ussuri, both of which have a faint superciliary line, and one has the chestnut on the flanks but faintly marked, whereas the other has it strongly developed. They measure: culmen 0·7 inch, wing 3·15 and 3·22, tail 1·65 and 1·7.

Sitta clara (*Sitta amurensis clara*, Stejneger, Proc. U.S. Nat. Mus. 1886, p. 392). Dr. Stejneger has separated this form as having the abdomen pale rufescent or creamy buff as in *Sitta amurensis*, but the flanks also creamy buff and not chestnut. Two specimens in my collection, both males from Sapporo, Yesso, agree closely with Dr. Stejneger's description, and have only the faintest trace of a chestnut tinge on the flanks; both have the forehead slightly hoary, and a slight white superciliary line. They measure: culmen 0·72 and 0·7 inch, wing 3·15 and 3·2, tail 1·52 and 1·55. According to Dr. Stejneger this form has only been found on Yesso, Japan.

Sitta neumayeri, Michah. (Gadow, *op. cit.* p. 345). Inhabits Greece, Asia Minor, and Northern Persia, and is said to occur also in Spain. Full particulars respecting this species are given in the 'Birds of Europe,' iii. pp. 183–187, and I may add that *Sitta rupicola*, Blanford, is not specifically separable from it.

Sitta cæsia, Meyer and Wolf (Gadow, *op. cit.* p. 347). Inhabits Great Britain, Europe south of the Baltic, and the southern portion of the Western Palæarctic Region generally. Specimens from Southern Europe and Asia Minor are much brighter and clearer coloured than others from Northern Europe, and especially from Great Britain. Mr. Seebohm (B. of Jap. Emp. p. 92) has separated as a subspecies a form which, he says, inhabits Pomerania, the Baltic Provinces, Poland, and the Crimea, to which he gave the name *Sitta cæsia homeyeri*, but did not publish any description. Mr. Seebohm has very courteously lent me two specimens of this form, which, however, so far as I can judge, differ entirely from *Sitta cæsia*, and are nothing else but ordinary *Sitta europæa*, being absolutely inseparable from the specimens in my own collection from both Sweden and Norway, above referred to, which have the abdomen tinged with cream-colour. Mr. Seebohm's two specimens measure as follows:—Male, near Danzig, 4th May, 1882, culmen 0·8 inch, wing 3·3, tail 1·7, tarsus 0·75; female, Moscow, 4th October, culmen 0·8 inch, wing 3·35, tail 1·75, tarsus 0·8. A specimen, however, from Pomerania, in the collection of Rev. H. H. Slater, has the underparts much darker, nearly as well coloured as in average

specimens of *S. caesia*; but it has also the chestnut on the flanks as fully developed as in any specimen of *S. europæa*.

Sitta krueperi, von Pelz. (Gadow, *op. cit.* p. 350). Inhabits Asia Minor, Palestine, and Syria, and differs from all the preceding species in having the forehead jet-black and a patch of chestnut-red on the upper breast. Full particulars respecting this species are given in the 'Birds of Europe,' iii. pp. 189–191.

Sitta whiteheadi, Sharpe. This and the two following species are easily distinguished from all other Palæarctic Nuthatches in having the crown jet-black, the present species and *Sitta villosa* being nearest allied to the Nearctic *Sitta canadensis*. Full particulars respecting the present species are given above.

Sitta villosa, Verreaux (Gadow, *op. cit.* p. 355). Differs from *Sitta whiteheadi* merely in having the underparts warm creamy with a rufous tinge, whereas in *S. whiteheadi* these parts are pure white. It inhabits Northern China, and was obtained by Col. Prjevalski in the provinces of Alashan and Kansu, and in the Tetung Mountains in Mongolia.

Sitta przewalskii, Beresovski and Bianchi, Pt. pyt. Potanina, p. 119 (1891); Pleske, Wissensch. Result. Przewalski's Reis. ii. p. 174, pl. ix. fig. 4. I have not had an opportunity of examining a specimen of this rare Nuthatch, of which, so far as I can ascertain, only two specimens are known—one, a female, obtained by Col. Prjevalski on the Umu River, Chuanche, and the other, a male, obtained by Mr. Beresovski on the Jo-dsam-pu River in the Mindsheu district. Prjevalski proposed the name of *Sitta ekloni* for this species, but it had already been described by Messrs. Beresovski and Bianchi. It is stated to have the forehead, crown, nape, and hind neck glossy black, with a bluish tinge; lores, sides of head and neck, ear-coverts, chin, and upper throat white, with a warm creamy tinge; upper parts blackish slate, with an indigo-blue tinge, the rump lighter than the back; quills blackish, externally margined with dark slate-blue; median two tail-feathers slate-coloured, the remainder black, with the terminal portion slate-grey, more especially on the outer web; on the inner web of the fourth and fifth pair white spots, and on the sixth a white bar; breast and centre of the abdomen dull creamy; sides of the breast and flanks bright chestnut-red; bill black, the base of the lower mandible light coloured; legs dark brown; iris very dark. Wing ♂ 2·85 inches, ♀ 2·75; tail ♂ 1·7, ♀ 1·65; tarsus ♂ 0·7, ♀ 0·62. Mr. Pleske remarks that the present species is closely allied to *Sitta leucopsis*, Gould, but differs in being smaller in size, and having the underparts more rusty red in tone of colour, and that it will be necessary to compare a series in order to test the validity of the species.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens of *Sitta syriaca*:—

E Mus. H. E. Dresser.

a, ♂. Puli-Chatum, Transcaspia, July 5th (*Dr. G. Radde*). *b*, ♂. Osch, near Kokand, N. of Pamir, February 7th, 1882 (*Staudinger*). *c*, ♀. Kokand (*Dode*).

TROGLODYTES PALLIDUS.

(PALLID WREN.)

Troglodytes nepalensis (nec Blyth), Severtzoff, Turk. Jevotn. p. 66 (1873).

Troglodytes europæus (nec Vieill.), Severtzoff, ut suprâ (1873).

Troglodytes parvulus (nec Koch), Dresser, Ibis, 1875, p. 175.

Troglodytes pallidus, Hume, Stray Feathers, iii. p. 219, footnote (1875).

Troglodytes parvulus, β . *tianschanicus*, Severtzoff, J. für Orn. 1875, p. 179.

Anorthura pallida (Hume), Sharpe, Cat. B. Brit. Mus. vi. p. 273 (1881).

Troglodytes tianschanica (Severtzoff), Sharpe, ut suprâ, footnote (1881).

Troglodytes parvulus pallidus, Dixon, Ibis, 1885, p. 81.

Figura nulla.

Ad. T. parvulo similis, sed pallidior: corpore suprâ magis cinereo et nec rufescente tincto: corpore subtùs cinereo-albo nec cervino tincto.

Adult Male (Chotun-tam, February 3rd). Differs from *Troglodytes parvulus* in being much paler and greyer, lacking the warm rufous tinge on the upper parts, and the underparts are greyish white without any rufous or buff tinge: upper mandible brown, the lower one yellowish horn; legs and feet brownish fleshy; claws brown. Total length about 3.25 inches, culmen 0.5, wing 1.9, tail 1.35, tarsus 0.72.

THIS, the representative in Central Asia of our European Wren, from which it differs but little, though the differences being constant render it necessary to treat it as a distinct species, is found in Asia from Transcaspia eastward as far as Eastern Turkestan.

Zarudny points out (Rech. Zool. Contr. Transcasp. p. 153) that the Wren which inhabits the Kopepet-dagh, in Transcaspia, belongs to the present species and not to *Troglodytes parvulus*. Messrs. Radde and Walter state that a specimen obtained by them at the Kürtseverdeh-tschesme spring, at the upper end of the Karange-dagh gorge, agreed closely with the European form, to which belongs also the Wren of Persia; but in Turkestan the present species is found, and is, Dr. Severtzoff says, resident in the north-eastern and north-western districts, whereas *Troglodytes parvulus* occurs in the south-western district. Russoff (*teste* Pleske, Rev. Turk. Orn. p. 38) obtained the present species at Samarcand and Tschinas; he also found it breeding on the Iskander-kul, and observed it at Baissun and Karakovol. Col. Biddulph obtained it at Sanju, and met with it about Yarkand and Kashgar; he observes that he often noticed it about the willow trees in the fields. It does not appear to have been found in Mongolia by Col. Prjevalski; but numerous adult birds were obtained by the brothers Grum-Grzimailo in the Chami district (Chami and Dshigda) and the Karlyk-tagh (Chotun-tam) in Eastern Turkestan. According to Mr. Pleske (Wissensch. Result. Przewalski's Reis. ii. p. 180), Colonel Prjevalsky

only brought back two specimens of this Wren, but found it by no means rare in the Tian-shan range. He states that it is not unfrequently seen on the Kunge and Zanma Rivers. The specimens he obtained were shot at Balgantai-gol and Ssairain-nor, and it is probable that this was the species observed in the frontier mountains of Western Dzungaria.

So far as I can ascertain no particulars respecting the habits and nidification of the Pallid Wren have hitherto been published, but it probably does not differ much, if at all, from its congener *Troglodytes parvulus*.

As the differences between our common European Wren and the present species are only in colour and are easily described, the latter being merely a pale desert form of the former, I have not deemed it necessary to figure it.

The specimen above described is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, *ad.* ♂. Chotun-tam, Chami district, February 3rd, 1890 (*Grum-Grzimalo*). *b*, ♂ *ad.* Tschimkent, Turkestan (*Dode*).

E Mus. Brit.

a. Turkestan (*Gould coll.*). *b*, ♂. Tschimkent, October 19th, 1864 (*Severtzoff*). *c*. Kashgar, February 11th, 1874; *d*, ♂. Yarkand, November 11th, 1873; *e*, ♀. Boria, November 4th, 1873 (*Stoliczka*). *f*, ♂. Yarkand, November 17th (*Col. J. Biddulph*).



C. G. Heermann del. et sculp.

Mintern Bros. imp.

MASKED WAGTAIL
MOTACILLA PERSONATA.

MOTACILLA PERSONATA.

(MASKED WAGTAIL.)

Motacilla personata, Gould, B. of Asia, iv. pl. 63 (1861).

Motacilla maderaspatana, Horsf. & Moore, Cat. B. E. I. Co. Mus. i. p. 347 (1854, partim).

Motacilla dukhunensis (nec Sykes), Jerdon, B. of Ind. ii. p. 218 (1863).

Motacilla cashmeriensis, Brooks, Proc. As. Soc. Beng. 1871, p. 289.

? *Motacilla baicalensis*, Dybowski, J. f. O. 1873, p. 82, partim.

Trjasoguska, Russian; *Kok-sunduk*, Turki; *Dhobin*, Hindu.

Figuræ notabiles.

Gould, B. of Asia, pl. lxiii.; Sharpe, Cat. B. Brit. Mus. x. pl. v. figs. 3, 4.

♂ *ad.* *M. albæ* similis, sed capite, collo toto usque ad dorsum, gulâ et gutture nigris: regione oculari et postoculari cum fronte albis: secundariis et tectricibus alarum magis albo marginatis: rostro et pedibus nigris: iride fuscâ.

♀ *ad.* mari similis.

Ptil. hiem. pilei plumis cinereo marginatis et gulæ plumis albo marginatis: corpore suprâ sordidiore et remigibus secundariis cum tectricibus alarum angustioribus albo marginatis.

Adult Male (Turkestan, March 9th). Differs from *M. alba* in having the black on the head and neck much further extended, and the secondaries and wing-coverts are much more broadly margined with pure white; the black on the head continued to the fore part of the back, the sides of the neck, and the fore part of the breast, the white being restricted to a broad frontal band, the region round the eye, and a small patch behind the eye: bill and legs black; iris dark brown. Total length about 7·5 inches, culmen 0·65, wing 3·75, tail 3·8, tarsus 1·05.

The sexes do not differ in plumage. In the winter the black on the head and throat is obscured by grey edgings to the feathers on the crown, and by white edgings to those on the throat, the grey on the upper parts is rather duller, and the margins to the secondaries are narrower.

THE range of this Wagtail extends from Transcaspia in the west to Calcutta in the east, and from Siberia in the north down to India, where it winters. According to Messrs. Radde and Walter (Vög. Transcasp. p. 44) it also remains over the winter season in the lowlands of Transcaspia, whereas *Motacilla alba* is a regular migrant there. They also obtained lately-fledged young birds at Germab, Askabad. According to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 790) it is "not uncommon on the banks of the upper part of the Murghab, and in the Pindé oasis, in the latter part of June. Its absence at Merv, along the central part of the Murghab and along the Tedgend, may be explained by the complete absence of the sand-banks which are the necessary

adjuncts to its sojourn in a locality." It is found in Persia, as there is, Mr. Blanford remarks (E. Pers. ii. p. 233), a specimen in the British Museum from that country which does not differ from Indian examples; but all those obtained by Mr. Blanford in Persia differ slightly from typical *M. personata* and belong to the form designated by him *M. personata*, var. *persica*.

Major Wardlaw Ramsay and Col. Swinhoe record *M. personata* as being abundant in Afghanistan, where it breeds; and in Kashmir it is said to be resident, as Col. J. Biddulph states (Str. Feath. ix. p. 333) that it is "common in Gilgit all the year round, ascending in summer to about 9000 feet or more. Severe weather in winter, spring, and autumn always drives a number down to the low ground. They are as good as a barometer, always appearing a day before the bad weather, and disappearing again before it entirely clears." Severtzoff records it from Turkestan, and, according to Scully (Str. Feath. iv. p. 151), it is "the common Wagtail of Eastern Turkestan, where it is found in great numbers throughout the plains, generally near habitations and streams of running water. It is most numerous from March to September, but some of these birds are certainly to be seen throughout the year." It breeds, he adds, in May.

The brothers Grum-Grzimaïlo obtained it in the Bogdo-ola mountains, Tian-shan; and Dr. Severtzoff remarks (Ibis, 1883, p. 64) that it was not observed at all either on the Alai or Pamir, until the end of August and the first days of September, when many specimens were obtained.

Mr. Pleske states (Wissenschaft. Result. Przewalski's Reis. ii. p. 183) that "on the journey to the Lob-nor *Motacilla personata* was met with in the valleys of the Kunge and Lower Tarim and in the Tian-shan. The first stragglers were met with in Ssaissansk on the 12th March, 1879, and on the Lob-nor on the 5th March, 1885. It was very common on the Urungu River and on the southern spurs of the Altai. On passage it was observed on the Tschertschen Darja, and breeding on the northern slopes of the Chotan-tagh, in the oases of Nija, Keria, and Ssampula." In the north it is found in Central Asia; and in Eastern Siberia Dr. Finsch (Ibis, 1877, p. 51) remarks that he observed this Wagtail in the streets of Lepsa, and along the whole road through the Tarbagatai and Altai to Kolywan; and according to Taczanowski (Sib. Orient. p. 368), "Godlewski states that it only occurs on the southern Baikal on passage and is rare, more so in the autumn than in the spring. It arrives in the first half of May. When travelling through the province of Yenneseisk in August he observed parties of young birds with their parents, so that it evidently must breed there, and is common." Southward it ranges into India, where Mr. Oates says (Faun. Brit. Ind., Birds, ii. p. 291) it is a winter visitor to the whole of India proper, down to Belgaum on the south and to Calcutta on the east.

In Persia and in the Caucasus a form occurs which is intermediate between *M. personata* and *M. alba*, and is the *Motacilla personata*, var. *persica*, of Blanford, and *M. persica* of the Brit. Mus. Catalogue of Birds. The variations *inter se* of this form are great, and I am very doubtful if it can be considered a good species or even subspecies, and have therefore not included it as such. According to Dr. Radde (Orn. Cauc. p. 223, pl. xii.) it would appear that in the Caucasus this form approaches much closer to *M. alba*, whereas in Persia, according to Blanford (E. Pers. ii. p. 232), it varies but little from typical *M. personata* in having a few white feathers at the side of the neck and in having the area of white below and behind the eye rather more extensive. This form breeds in the Caucasus, as does also *M. alba*, and some few

remain over winter in the warmer districts, and in Persia it breeds on the plateau in larger numbers than *M. alba*.

In its breeding-habits the Masked Wagtail is said to assimilate closely with the common European Pied Wagtail.

Major Wardlaw Ramsay (Ibis, 1880, p. 60), who met with it in Afghanistan, where it was, he says, "abundant and breeding throughout May and June," found, on the 5th June, a nest in the root of a tree which was lying in the dry bed of a stream and which contained five newly-hatched young birds, and on returning to the nest on the 28th of the same month the young had flown, and a second laying of three eggs was in the nest, and he found a fourth egg in the female which he shot. Another nest was placed in a recess under a large stone near the edge of the water.

In the 'Catalogue of Birds in the British Museum,' vol. x., Dr. Sharpe has subdivided the Wagtails to a larger extent than I am inclined to do. Thus he subdivides *Motacilla alba* into *Motacilla alba* and *M. baicalensis*, in which I agree with him, as the latter may always be separated from *M. alba* in having more white on the crown and the chin (and in some specimens the upper part of the throat also) pure white, besides which it has considerably more white on the wing. On the other hand, I cannot, as above stated, agree with him in recognizing *M. persica* (*op. cit.* x. p. 479, pl. v. figs. 5, 6) as a good species, for, so far as I can judge, it is merely an intermixture of *M. personata* and *M. alba*. With this exception, however, I fully agree with Dr. Sharpe's views so far as the black and white Wagtails are concerned.

The specimens figured are an adult male in spring plumage from Turkestan, and in the background an adult male in winter dress from Etawah, both of which, as well as the birds described, are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Askabad, February 17th (*Dr. G. Radde*). *b*, ♂. Turkestan, March 9th, 1886; *c*, ♂. Chimkent, February 11th, 1866 (*Severtzoff*). *d*, ♂, *e*, ♂. Nija-Darja, Eastern Turkestan, March 1890 (*Pevtzoff*). *f*, ♂. Etawah, N.W. India, January 19th, 1870; *g*, ♀. Etawah, December 17th, 1869 (*W. E. Brooks*).



J. G. Keulemans del. et lith.

YELLOW BROWED WAGTAIL.
MOTACILLA XANTHOPHRYS.

Mintern Bros. imp.

MOTACILLA XANTHOPHRYS.

(YELLOW-BROWED WAGTAIL.)

Motacilla melanocephala, var., Seebohm, Ibis, 1884, p. 428.

Motacilla xanthophrys, Sharpe, Cat. B. Brit. Mus. x. p. 532 (1885).

Figura unica.

Sharpe, op. cit. pl. viii. fig. 6 (head only).

♂ ad. *M. melanocephalæ* similis, sed striâ superciliari conspicuè flavâ.

Adult Male (Lenkoran). Crown, nape, and sides of the head, including the ear-coverts, deep black, rather duller in tinge on the lower part of the nape; above the eye a distinct bright yellow stripe; upper parts olive-green, rather brighter on the rump; wings blackish, the median coverts edged with pale yellow, and the larger coverts and inner secondaries margined with buffy white, the primaries very narrowly edged with white; tail black, the two outer feathers white, obliquely marked with black on the basal portion of the inner web, the central tail-feathers narrowly edged with yellow; upper tail-coverts with dusky black centres; underparts rich canary-yellow, the sides of the upper breast slightly marked with dull blackish: bill and legs black; iris dark brown. Total length about 5·3 inches, culmen 0·55, wing 3·15, tail 2·6, tarsus 0·95.

Obs. I have not been able to obtain a female for examination, and, in fact, have never seen but three specimens, two of which were marked as being males, and the third, though the sex is not stated, is evidently also an adult male. These three specimens vary very little *inter se*, the only difference being that in the specimens from Batoum the black on the head and neck is extended on to the fore part of the back, thus much further than in the bird from Lenkoran. The measurements of these three specimens are as follows:—Culmen 0·55, 0·55, and 0·53 inch; wing 3·15, 3·35, and 3·2; tail 2·6, 2·72, and 2·9; tarsus 0·95, 0·9, and 0·8.

IN the article on *Motacilla melanocephala* in the 'Birds of Europe' (iii. p. 274) I remarked that specimens were said sometimes to occur having an indication of a yellow superciliary stripe, but that I had never been able to procure one. In the Brit. Mus. Cat. of Birds, published ten years later, Dr. Sharpe described as distinct a Wagtail from Lenkoran, in the collection of Mr. H. Seebohm, which had a distinct yellow superciliary stripe, but I have always been inclined to regard it as an individual variety, and not a distinct form. Quite recently, however, I have received from Professor Menzbier, of Moscow, two specimens from Batoum which agree closely with Mr. Seebohm's specimen, and I am therefore inclined to think that Dr. Sharpe was justified in describing this form as distinct, especially as Prof. Menzbier considers it to be a good species. Moreover, in all the specimens of *Motacilla melanocephala* which I have at different times examined, including the large series in the British Museum, I have not found any intermediate examples between that species and *M. xanthophrys*, which strengthens me in the view that this

latter form should be kept distinct. The only specimens I have been able to examine are two from Batoum and one from Lenkoran; but, as I am informed by Mr. Th. Pleske, there are specimens in the St. Petersburg Museum from Lenkoran and from Demavend in Persia; hence, so far as we at present know, the range of this form extends from the Black Sea to Persia.

So far as I can ascertain, there are no details on record respecting the habits of this Wagtail, in which, however, it doubtless does not differ from its near ally *M. melanocephala*.

Ten years having now elapsed since the publication of vol. x. of the 'Catalogue of Birds in British Museum,' in which the Wagtails were included, it may not be out of place to give a short review of the Yellow Wagtails which, up to the present time, are known to inhabit the Palæarctic Region, as follows:—

Motacilla citreola, Pall., Sharpe, Cat. B. Brit. Mus. x. p. 503. This and the following species are recognizable by the adult male having the head and neck bright yellow, and in the present species the back is dark ash-grey. Full particulars as to range, &c., will be found in the 'Birds of Europe,' iii. p. 245.

Motacilla citreoloides, Hodgs., Sharpe, *op. cit.* p. 507. Differs from the preceding species in having the upper parts glossy black instead of grey. It is found in Turkestan, Afghanistan, and eastward to the Eastern Tian-shan, Kansu, and Koko-nor, wintering in India.

Motacilla raii (Bp.), Sharpe, *op. cit.* p. 510. Full particulars respecting this species will be found in the 'Birds of Europe,' iii. p. 277.

Motacilla flava, Linn., Sharpe, *op. cit.* p. 516. Dr. Sharpe separates *Motacilla beema* as a subspecies of *M. flava*, but in this I cannot agree with him. All the Yellow Wagtails are subject to variation, and after examining the series in the British Museum and in my own collection I find it impossible to say how *M. flava* can be invariably separated from *M. beema*, and in the series in the British Museum there are numerous specimens which are quite intermediate and may be referred either to the one or the other. Besides the so-termed *M. beema* has no separate range, but the two are always found together. Particulars of the range of *M. flava* will be found in the 'Birds of Europe,' iii. pp. 261, 268.

Motacilla viridis, Gmel. (B. of Eur. iii. p. 269), Sharpe, *op. cit.* p. 522. Dr. Sharpe here also divides this species into two, on account of some specimens having a white superciliary line; but this I find most variable, as in some specimens there is the merest indication of the white line, often only a spot, and in others quite a distinct white streak. One adult male in my collection has a tolerably well-defined white streak over one eye, but not a trace of a streak over the other; some also have the throat white, and others have it yellow.

Motacilla melanocephala, Licht. (B. of Eur. iii. p. 273), Sharpe, *op. cit.* p. 527. This, like the preceding species, exhibits a tendency to variation, some specimens having a slight white superciliary stripe; and Dr. Sharpe (*op. cit.* p. 531) separates these under the name *M. paradoxa*, C. L. Brehm, but I disagree with him in the propriety of so doing. He gives the range of the form with a white superciliary line as "from Hungary and Dalmatia to South Russia and the Crimea as far as long. 47° E."; but in the series in the British Museum I find two specimens from India—one, a female, obtained at Sambhur, 28th March, 1873, by Mr. R. M. Adam, and the other, a male, obtained at Loyah, 10th March, 1872, by Mr. W. E. Brooks, both of which have the white eyebrow, though they are labelled "*Motacilla feldeggii*." One of these has the

white line but faintly marked, but in the other it is more distinct, the specimen figured as *M. paradoxa* having it but slightly more developed. I may remark that I have a specimen of *Motacilla melanocephala* which differs greatly from any other I have ever seen in having the black extended far down the nape, the back rich dark orange with an olive-green tinge, indistinctly marked with blackish, and the underparts deep rich orange instead of yellow; but I should be very sorry to describe it as new, and to found a new species on this single specimen. The bird in question was obtained by Capt. Marshall at Umritzur, India, 31st March, 1872.

Dr. Radde (Orn. Cauc. pl. xi.) figures a peculiar albino of *M. melanocephala* which, he says, has the beak and legs nearly white, the crown and nape, instead of being black, are pure white, and the back rich yellow, a few feathers slightly marked with greyish black.

Dr. Sharpe discards Lichtenstein's name of *melanocephala*, given in 1823 to this species, in favour of *feldeggi*, given by Michahelles in 1830, because Gmelin (Syst. Nat. i. p. 970) described a bird under the name of *Motacilla melanocephala*; but as Gmelin's bird was a *Sylvia* (*S. melanocephala*) and not a *Motacilla*, I cannot see that he had any justification for so doing.

On the other hand, it appears to me that Dr. Sharpe was justified, for the reasons above given, in describing the form with a yellow superciliary stripe as a distinct species, and I have therefore included *Motacilla xanthophrys*, Sharpe, *op. cit.* p. 532, as a good species.

The specimen of *M. xanthophrys* described is in the collection of Mr. H. Seebohm, and those figured are in the foreground a specimen from Batoum, for the loan of which I am indebted to Professor Menzbier, of Moscow, and in the background the specimen in Mr. Seebohm's collection.

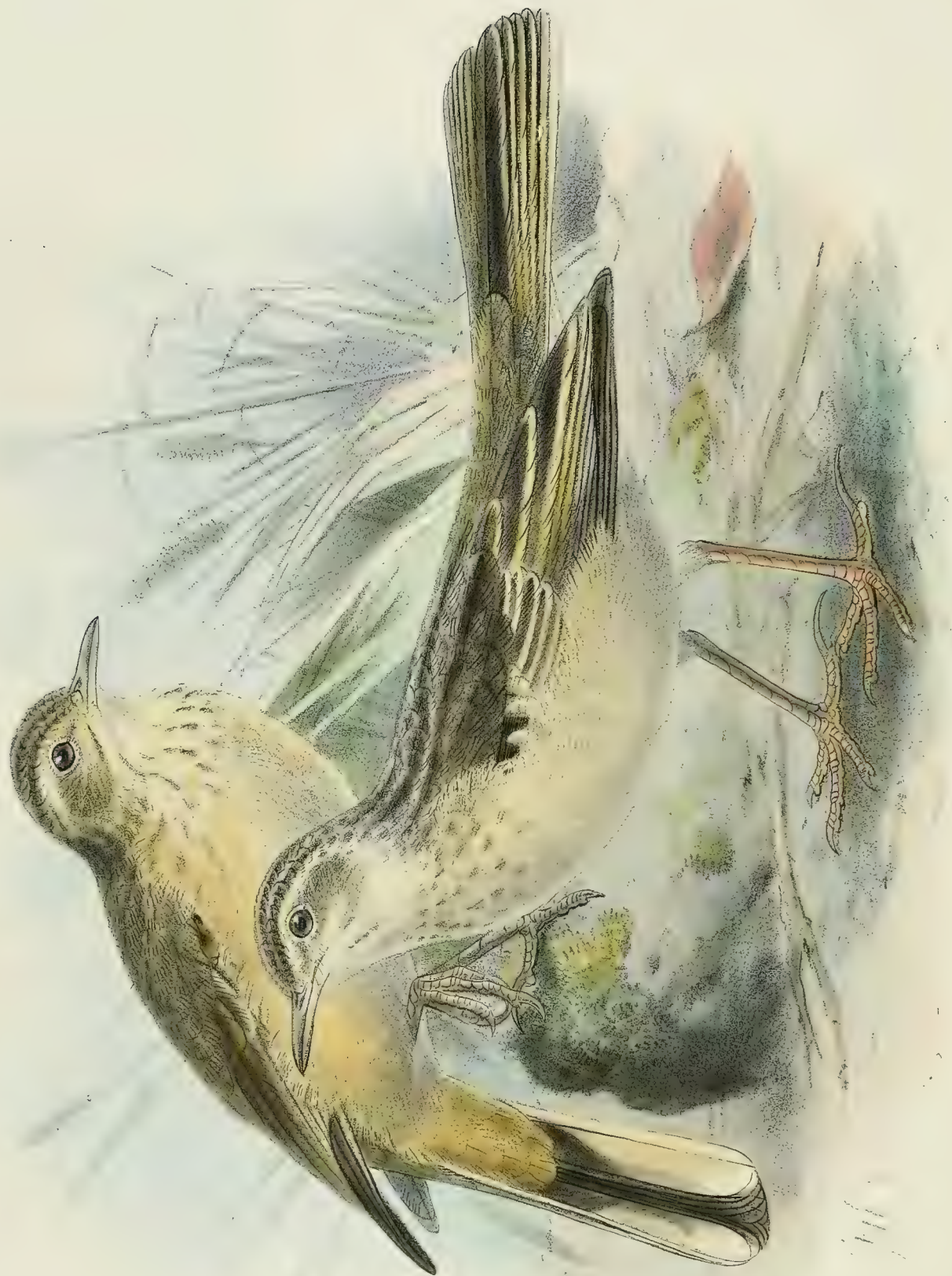
Unfortunately I have been unable to obtain a specimen for my own collection, and the only specimens I have been able to examine are the following:—

E Mus. H. Seebohm.

a, ♂ *ad.* Lenkoran (type of the species).

E Mus. Muscov.

a, ♂ *ad.* Batoum, March 26th, 1894; *b*, *ad.* Batoum, April 8th, 1893 (*Menzbier*).



J. G. Keulemans del et lith

PIRANGA OLIVACEA
ANCIENNE SÉRIE

Mintem Bros. imp

ANTHUS SIMILIS.

(BROWN ROCK-PIPIT.)

- Agrodroma similis*, Jerdon, Madr. Journ. xi. p. 35 (1840).
Anthus similis (partim), Blyth, Cat. B. Mus. As. Soc. p. 135 (1849).
Agrodroma sordida (nec Rüpp.), Jerdon, B. of Ind. ii. p. 236 (1863).
Corydalla richardi (nec Vieill.), Beavan, Ibis, 1868, p. 79.
Agrodroma jerdoni, Finsch, Trans. Zool. Soc. vii. p. 241 (1870).
Corydalla griseorufescens, Hume, Ibis, 1870, p. 286.
Agrodroma griseorufescens (Hume), Cock & Marshall, Str. Feath. i. p. 356 (1873).
Anthus sordidus (nec Rüpp.), Blanford, E. Pers. ii. p. 237 (1876).
Anthus jerdoni (Finsch), Sharpe, Cat. B. Brit. Mus. x. p. 562 (1885).

Figura unica.

Henderson & Hume, Lahore to Yarkand, pl. xxi.

Ad. supra fuscus, griseo tinctus, plumis medialiter saturatè fusco striatis et pallidè fulvido marginatis : remigibus saturatè fuscis, fulvido marginatis : rectricibus nigro-fuscis, rectrice extimâ in pogonio externo rufescenti-cervino et eodem colore terminatâ, reliquis rufescenti-cervino marginatis : striâ superciliari et corpore subtùs fulvido-cervinis : mento ferè albido : pectore indistinctè pallidè fusco guttato : rostro fusco, mandibulâ ad basin pallidè carneâ : pedibus flavido-carneis : iride fuscâ.

Adult Male (Etawah, winter). Upper parts hair-brown with an ashy tinge, the feathers with dark brown shaft-stripes and margined with pale fulvous ; the wings dark brown, the feathers margined with warm fulvous ; tail blackish brown, the outermost rectrix with the outer web and terminal portion pale creamy rufous, the next feather broadly tipped with creamy rufous, and the rest of the tail-feathers narrowly margined with the same colour ; superciliary stripe and underparts warm fulvous buff, the chin nearly white, and on the breast a few pale brownish spots : bill dark brown, except at the base of the lower mandible, where it is pale fleshy ; legs yellowish flesh ; iris brown. Total length about 7·5 inches, culmen 0·78, wing 4·0, tail 3·55, tarsus 1·12.

The sexes do not differ, but in the late summer the plumage becomes much worn and therefore considerably paler, the underparts being then pale creamy. I have therefore figured this Pipit in the foreground in the pale summer dress, and in the background in the winter plumage.

THE Brown Rock-Pipit inhabits the elevated plateau of Persia, ranging eastward through Afghanistan and Baluchistan to India. Mr. Blanford (E. Pers. ii. p. 237) obtained two females at Shiraz, Persia, in June, and one example about fifty miles north of Ispahan in April. According to Lieut. H. E. Barnes it is not uncommon in Southern Afghanistan ; and Capt. Butler observed it near Kurrachee and Kotri in Sind, in which country it is, Mr. Hume writes (Stray Feath. 1873, p. 203), “ decidedly uncommon. It may occur there more plentifully, perhaps, in the autumn ; but during December, January, and February, when I was in Sind, I only saw it twice, once near Hyderabad and once near Kurrachee.”

Dr. Henderson obtained a specimen on the return journey from Yarkand, at the foot of the hills leading into Kashmir, and says that it is equally common in the plains during the cold season and in the hills during part, at any rate, of the hot weather. According to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 307) it is "a winter visitor to the plains of the north-west of India, extending to the east as far as the Sikhim terai and Mughal Sarai, and to the south as far as Khandesh, Jálna, and Nágpur. This Pipit retires in summer to the Himalayas, where it breeds from Hazára to Sikhim, up to about 6000 feet elevation. The range of this bird extends to Afghanistan, Baluchistan, and Persia."

In its habits this Pipit appears to most nearly resemble *Anthus richardi*, and Mr. Davison remarks that its note also resembles that of Richard's Pipit, but is louder and clearer. He generally noticed it on the slope of the hills, and also met with it on grassy lands and in barley-fields after the grain had been reaped, and found it shy. Mr. Reid, who met with it near Lucknow, where it is not common, observed it occasionally in cultivated tracts, ploughed fields, and about mounds covered with broken brick and scrub jungle. Its flight is strong and undulating.

This Pipit breeds in Afghanistan and in various parts of the Himalayas. Major Wardlaw Ramsay found a nest in Afghanistan on the 22nd June under a small bush at the foot of a rock. It contained three eggs, of which, however, he does not give a description. Col. Marshall, who met with it breeding at Murree, says (Stray Feath. 1873, p. 356) that it does not breed above 6000 feet altitude, and that it nests low down on the hillside, the nest being roughly constructed of grass, the normal number of eggs being four. Mr. Hume describes (Nests & Eggs of Ind. Birds, 2nd ed. ii. p. 213) eggs sent to him by Col. Marshall as follows:—"Moderately broad, fairly regular, ovals, somewhat compressed or pointed towards one end; the shells are compact and fine, but almost entirely devoid of gloss. The ground-colour is brownish or greyish white, and they are profusely speckled, spotted, and streaked, and in places blotched and clouded, with a sort of sienna-brown and a pale dingy half-washed-out colour, which varies from pale sepia to pale inky purple. The markings are everywhere thickly set, but they are much more dense towards the large end, where they very generally form a more or less confluent cap. Some of the eggs have all the markings somewhat purple, and others have them browner. In length these eggs vary from 0.82 to 0.87, and in breadth from 0.62 to 0.65."

The present species has by many authors been united with the African form *Anthus sordidus*, Rüpp., from which, however, it is fairly separable, being much more uniform in coloration both on the upper and underparts, the dark markings on the upper parts so conspicuous in *Anthus sordidus* being much less developed, and on the underparts the present species has much fewer spots on the breast as compared with *A. sordidus*.

The specimens figured are those above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Etawah, N.W. India, winter (*W. E. Brooks*). *b*. Near Kotri, Sind (*W. T. Blanford*). *c*. Simla (*Thornton*). *d*. Murree (*Marshall*).



J G Keulemans del et lith.

BOGDANOFFS' SHRIKE.
LANIUS GRIMMI.

Mintern Bros. imp

LANIUS GRIMMI.

(BOGDANOFF'S SHRIKE.)

Lanius grimmii, Bogdanoff, Sorokoputui Russkõi Faunui, p. 151 (1881).

Figura unica.

Bogdanoff, ut suprâ, pl. iv.

Ad. capite, collo et dorso pallidè cinereis isabellino tinctis : uropygio et supracaudalibus lætioribus et rufescente tinctis : fronte, loris et superciliis sordidè albidis : fasciâ paroticâ sordidè nigrâ : scapularibus albis : remigibus primariis fusco-nigris, dimidio basali albis : secundariis nigris albo marginatis, et pogonio interno apiceque albis : rectricibus mediis fusco-nigris albido apicatis, externis ferè albis, reliquis nigro-fuscis conspicuè albo terminatis : corpore subtùs albo, rosaceo-isabellino tincto : rostro nigro-fusco : pedibus fuscescentibus.

Adult (Atrek, July 1836). Upper parts generally dull pale isabelline grey, the rump similarly coloured but slightly rufescent ; lores, forehead, and a narrow stripe passing over the eye dull white ; a large post-ocular patch covering the ear-coverts dull black ; scapulars white ; wings generally as in *L. elegans*, but the black duller and tinged with brown, the lesser wing-coverts like the back, but the greater coverts are broadly tipped with dull white, forming a broad transverse bar ; primaries white at the base, forming a white patch about as in *L. elegans* ; secondaries broadly tipped with dull white ; two central tail-feathers brownish black, narrowly tipped with dull white, the next two similar but more broadly tipped with dull white, the rest black very broadly terminated with white, except the two outermost, which are quite white with a brownish-black shaft ; underparts white, washed with rosy isabelline : bill light horn, darker along the upper part of the culmen and at the tip ; legs brownish ; iris brown. Total length about 8·5 inches, culmen 0·75, wing 4·45, tail 4·5, tarsus 1·2.

Nestling (*vide* Bogdanoff). Plumage soft and lax ; upper parts warm sandy grey, with traces of white stripes on the head only ; the back uniformly coloured, the rump and upper tail-coverts darker and tinged with rufous isabelline ; wing-coverts coloured like the back without any white tips ; lores and ear-coverts brownish, the superciliary stripe dull white ; underparts white, with a rosy tinge without any transverse bars, and darker on the breast and flanks ; wings and tail brownish black, the white alar patch wanting on the first five primaries, but as well developed on the sixth to tenth quills as in the adult ; inner secondaries more narrowly margined than in the adult, the margins of the quills and coverts warm sandy isabelline, but the feathers on the carpus are white ; outer tail-feathers white, the rest margined and tipped with sandy isabelline : beak and legs light horn.

THE present species appears to be a desert form of *Lanius elegans*, as *L. mollis* and *L. funereus* are of *L. excubitor*. Its range, so far as we know at present, extends throughout the desert region from the Caspian eastward to Alashan, and, if Dr. Gadow's determination (of which more presently) can be trusted, southward to Baluchistan.

According to Bogdanoff (Sorokoputui Russkõi Faunui, p. 158), "Karelin was the first to

procure this Shrike on the Atrek River in July, during the breeding-season. I also observed it at this season at Mangislak and in the northern portion of Oust-Ourta, thence along the southern course of the Amu-Darja to the limits of the province of Bokhara. The desert of Kizil-Koum affords the most favourable conditions for the nidification of this species, yet I never saw it there. According to Severtzoff it breeds in the Syr-Darja region within the low valley belt to an altitude of 300 m., and is only found in higher altitudes during passage. Russoff met with it on the 21st February, 1878, near Tashkend, and on the 21st March near Tschinas. Prjevalsky brought an adult female from Alashan, and states that it occurs in Ordos and Alashan and frequents bushy localities. This shows that *Lanius grimmii* inhabits sandy and clayey deserts covered with thorns and other bushes. It is not known how far to the west it occurs, but it neither inhabits the Caucasus nor the black-earth region. It breeds in the Aralo-Caspian region and is migratory, but the time when it migrates is not known."

To this I may add that further research, since Professor Bogdanoff wrote the above, tends to show that the present species occurs as far west as the Caucasus, for Dr. Radde obtained a Shrike on the 25th November, 1879, near Lenkoran, which he subsequently ascertained by comparison with a specimen of *L. grimmii* to be referable to that form, and he adds that Prof. Bogdanoff examined it in 1886 and pronounced it to be *Lanius grimmii*. Zarudny (Bull. Soc. Mosc. iii. p. 764) writes that he found this species "tolerably rare on the desert plains of the Atrek, but much commoner on the sand-hills covered with saxauls and djousgounes which surround the Merv oasis, and it is not rare in the sandy places between this oasis and Tschardjouï, in the plains of Atrek and the Lower Soumbar. It is met with sporadically in the entire district between the Amu-Darja and the northern slopes of the Parapamise mountains."

Dr. Radde also obtained this Shrike at the Beum-basch Lake.

In habits the present species does not appear to differ from its near allies, and with regard to its nidification Prof. Bogdanoff writes (*l. c.*) as follows:—" *Lanius grimmii* builds in bushes on sandy, clayey, or stony steppes. The nest which I found in June 1874 at Mangishlak, in the valley of Aktan-Karatau, near the Djangilda, was placed on a small bush of *Caragana* sp., growing in the cleft of a huge rock, and was constructed of dry twigs lined with the wool of the Kirghis sheep, and contained five fresh eggs of a greenish-grey colour, with light grey spots, more thickly collected round the larger end. The female was absent, and the male was on the nest. This nest was a very late one, as in the same year a young bird was killed on the 4th of July at Oust-Ourta, and in 1873 young birds were seen arriving at the Amu-Darja; thus the eggs from which these latter were produced must have been laid early in April. This Shrike feeds on insects, small birds (*Sylvia nana* &c.), and small mammals. I am not aware if they feed on lizards, which abound in the steppes."

In the British Museum there is a Shrike obtained by Mr. Blanford at Bákú Kelát, Persian Baluchistan, on the 3rd February, 1872, which was referred by Dr. Gadow to the present species; but I am very doubtful if he is right in so doing, as it does not agree with the type, with which I have compared it, and appears to be a semi-albino or very pale variety of *L. lahtora*; to which species it was referred by Mr. Blanford.

The chief differences between *Lanius grimmii* and *L. elegans* are as follows :—

Lanius grimmii.

Upper parts dull brownish French grey. Forehead, lores, and an indistinct stripe over the eye dull white.

The broad patch behind the eye dull blackish.

Larger wing-coverts dull black, broadly tipped with dull white.

Tail rather imperfect, the outer feather white, the next blackish broadly tipped with white; the four central tail-feathers dull blackish, narrowly tipped with dull white.

Lanius elegans.

Upper parts clear French grey. A narrow frontal line and the lores black.

The broad patch behind the eye clear black.

Larger wing-coverts entirely black.

Outer tail-feather white, the next white with the shaft black, and a small black patch on the inner web, the next two black tipped with white; the four central tail-feathers black, with very slight dull white tips.

From which it will be seen that the chief characteristics of the present species are the white forehead, lores, and stripe over the eye.

The specimen figured and described is the type of the species, which was obtained by Karelin in July 1836 on the Atrek, and for the loan of which I am indebted to the courtesy of Mr. Pleske, Director of the Zoological Museum at St. Petersburg, this being the only specimen I have had an opportunity of examining.



J. G. Keulemans del et lith.

Mintern Bros. imp.

EVERSMANN'S SHRIKE.

LANIUS FUNEREUS.

LANIUS FUNEREUS.

(EVERSMANN'S SHRIKE.)

Lanius mollis, Bogdanoff, Sorokoputui Russkõi Faunui, p. 97 (1881, partim).

Lanius mollis, Seebohm, Ibis, 1882, p. 374 (nec Eversmann).

Lanius funereus, Menzbier, Ibis, 1894, p. 379.

Figuræ notabiles.

Bogdanoff, Sorokop. Russk. Faun. pl. ii; Seebohm, Ibis, 1882, pl. xi.

Ad. capite et corpore suprâ sordidè schistaceo-cinereis, dorso vix fusco lavato: loris cum regione paroticâ nigricantibus: aliis fusco-nigris, primariis basi albo maculatis: caudâ nigrâ, rectricibus externis albo terminatis, duabus centralibus omnino nigris: supracaudalibus longioribus conspicuè nigro terminatis: corpore subtùs vinaceo-albo, cinnamomeo tincto, fusco transversim vermiculato: rostro fusco-corneo: pedibus nigris.

Juv. fusco-cinereus, dorso magis fusco: scapularibus ferrugineo tinctis: supracaudalibus ferrugineis, fusco transversim vermiculatis: loris et regione paroticâ nigro-fuscis: secundariis et tectricibus alarum ferrugineo marginatis: corpore subtùs fusco-cinereo, fusco vermiculato.

Adult Male (Ulugchat, Kashgaria). General colour above, including the crown of the head, pale slaty grey, passing into pale fulvous grey on the tips of the greater scapulars and on the lesser upper tail-coverts; the back tinged with brownish, the longest upper tail-coverts tipped with black; an indistinctly marked line of whitish grey over the eyes; a very narrow and incomplete frontal band, lores, and ear-coverts black; quills brownish black; basal portion of the primaries pure white, producing a conspicuous alar patch; secondaries narrowly tipped with white; upper coverts black, the nearest to the ulnar edge greyish on the tip; tail-feathers black, the greater part of the outer web and the terminal portion of the inner web of the outer pair of feathers pure white, this colour decreasing towards the central feathers; the fifth pair of rectrices only tipped with white, the whole of the central pair black; chin dull white, the rest of the underparts whitish, tinged with vinaceous and vinaceous cinnamon; the fore neck, breast, and abdomen with narrow transverse vermiculations; the sides greyish vinaceous; the flanks and under tail-coverts pale vinaceous, deeper in tinge on the flanks; under wing-coverts blackish brown, marked with whitish; axillaries greyish brown: bill dark horn-brown; feet black. Culmen 1·06 inch, wing 5·1, tail 5·0, tarsus 1·0.

Adult Female (Lepsa River). Upper parts dark brownish grey, underparts rufous buff; lores and a broad stripe passing below the eye and ear-coverts black; wings black, the primaries white at the base, forming a small alar patch; primaries narrowly and secondaries more broadly tipped with white; tail black, the outer feathers white on the terminal portion, but the white covers a much smaller area than in the other specimens I have examined; upper tail-coverts lighter and greyer than the back, the longer ones broadly tipped with black; underparts very distinctly barred, but the under tail-coverts are plain, unbarred.

Young Male (near Lake Korogol, September 5th). Upper parts generally sandy buff, darker on the crown and nape, and more rufescent on the lower back and scapulars; rump and upper tail-coverts warm rufescent buff, the latter paler, almost buffy white, irregularly barred with dull blackish; wings blackish brown, the primaries white at the base, showing a small wing-patch when the wing is extended; quills margined with warm buffy white, the inner secondaries broadly tipped with that colour; larger and median wing-coverts margined with warm rufous buff, lesser coverts sandy buff; outer rectrix on each side white on the outer web and on the terminal half of the inner web, the next two with the black extending much further down, the remaining tail-feathers black tipped with warm buff; lores and a patch through the eye and extending on to the ear-coverts much darker than the rest of the head; chin, throat, and underparts generally buffy white, transversely closely vermiculated with blackish brown; under tail-coverts creamy buff or buffy white, indistinctly transversely vermiculated; bill dull horn-brown; legs black; iris brown. Total length about 8·5 inches, culmen 0·8, wing 1·65, tail 4·6, tarsus 1·15.

Nestling (Irtisch: *vide* Menzbier, Ibis, 1894, p. 379). General colour above and beneath brownish grey, back brownish; scapulars slightly ferruginous; upper tail-coverts ferruginous, the under ones ochraceous; all parts but the back with transverse vermiculations, less developed on the chin and crown of the head; tail-feathers brownish black, with white as in the adult, but less developed and washed with very pale rufous; quills dirty blackish brown; basal portion of the primaries rufous white, producing a small alar speculum; secondaries edged on the tips with pale ferruginous; upper wing-coverts blackish brown, edged with ferruginous; under wing-coverts and axillaries blackish brown, with ferruginous edges on the lesser ones; a patch before the eye and ear-coverts blackish brown; bill horn-brown; feet brown.

THE present species is, excepting perhaps *Lanius grimmii*, the rarest of the Grey Shrikes, and is as yet comparatively but little known. So far as I can ascertain, it inhabits Turkestan, and has occurred as far west as Archangel, and is replaced in Mongolia by a very closely allied, if separable, form, *Lanius mollis* of Eversmann; and it is only quite recently that Professor Menzbier has separated the eastern from the western form, both having hitherto been united under the name *Lanius mollis*.

Mr. Seeböhm states (Ibis, 1882, p. 374) that in the Henke collection there is a very fine specimen which is of this western form, obtained near Archangel in the autumn; it was obtained by Karelín on the Lepsa River and the Irtisch, in Turkestan by Severtzoff and Col. Prjevalski, and by Mr. Wilkins (Ibis, 1885, p. 356) near Ulughat on the Upper Tarim, Kashgaria, on the 12th October.

The eastern form has been obtained in the Altai by Romanoff near Khobdo, in Mongolia by Beresoffsky, at Nov. Ssaissan by Slovzoff, and in the Chami district by the brothers Grum-Grzimaïlo. As above stated, Professor Menzbier (Ibis, 1894, pp. 378–382) has recently separated *Lanius mollis* into two subspecies, viz. *Lanius mollis* (which he says inhabits Mongolia, and which has in the adult plumage the upper tail-coverts greyish tipped with ochraceous buff, and without any transverse bars) and *Lanius funereus* (which inhabits the Tian-shan range, and which is darker, greyer, and less tinged with buff than *Lanius mollis*, and has the larger upper tail-coverts marked with a very distinct terminal black band in the adult). In the young of both these two forms the upper tail-coverts are vermiculated with dull black. I am indebted to Prof. Menzbier for the loan of his type of *Lanius funereus*, of which I reproduce his description

above, having carefully verified it by comparison with the specimen in question, and I have been able, thanks to the courtesy of Mr. Pleske, to examine three specimens of the eastern form from Dzungaria and Mongolia, but it will be necessary to examine a much larger series to be in a position to state definitely whether these two forms are really specifically separable. Judging, however, from a specimen in the collection of Mr. Seebohm from Ferghana (Turkestan) I am still doubtful on the subject. This specimen, a female, is adult or nearly adult, and has the upper and under tail-coverts neither vermiculated nor marked on the upper tail-coverts with the broad black band which appears to be the chief characteristic of Prof. Menzbier's *Lanius funereus*, which is, he says, the form which inhabits Turkestan; and thus agrees much more closely with the Mongolian form—that is, true *Lanius mollis*. On the other hand, the three specimens of this Mongolian or eastern form which I have examined all agree with Prof. Menzbier's diagnosis of that form, and have no trace of the black band on the upper tail-coverts; and I have therefore deemed it preferable to recognize the eastern and western forms as subspecifically separable, and have consequently adopted Prof. Menzbier's name for the western form.

Of the specimens I have examined the darkest is the one figured on Plate 667, which is the one for the loan of which I am indebted to Mr. Pleske.

Specimen *a* in Mr. Seebohm's collection is the young male above described and figured on Plate 666. It has the upper tail-coverts finely, though somewhat sparsely, vermiculated, and the under tail-coverts are also vermiculated, though much more sparsely. Specimen *b* in the same collection is evidently a much older, and probably a fully adult bird: it is greyer on the upper parts and less tinged with rufous buff than specimen *a*; the ear-coverts are much blacker, and the secondaries are but narrowly tipped with white; there is less white on the tail, though not so little as in the specimen from the Lepsa River, and the upper and under tail-coverts are plain, neither vermiculated nor tipped with black.

The specimens figured are—on Plate 666 a young male, specimen *a*, in Mr. Seebohm's collection, which is also the bird above described; and on Plate 667 the old female from the Lepsa River, which is also the adult female above described. The description of the adult male is taken from Prof. Menzbier's type of *Lanius funereus*.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. Seebohm.

a, ♂. Mountains near Lake Korogol, September 5th; *b*, ♀. Ferghana, March 3rd, 1882 (*Dr. Severtzoff*).

E Mus. Petrop.

a, ♀ *ad.* Lepsa River, September 1844 (*Karelin*).

E Mus. Moskov.

a, ♂. Ulugchat, Kashgaria (*Wilkins*).



J. G. Keulemans del. et lith

Mintern Bros. imp.

1. EVERSMANN'S SHRIKE.
LANIUS FUNEREUS.
 2. WHITEWINGED SHRIKE.
LANIUS LEUCOPTERUS.

LANIUS LEUCOPTERUS.

(WHITE-WINGED SHRIKE.)

Lanius leucopterus, Severtzoff, Turk. Jevotnie, p. 67 (1873).

Lanius przewalskii, Bogdanoff, Sorokop. Russk. Faun. p. 147 (1881).

Lanius excubitor, var. *prezawalskii*, Radde & Walter, Vög. Transcasp. p. 68 (1888).

Lanius homeyeri, Sharpe, Second Yark. Mission, p. 70 (1891, partim).

Figura unica.

Bogdanoff, Sorokoputui Russkõi Faunui, pl. iii. fig. 2.

Ad. L. excubitori similis, sed corpore suprà pallidiore : alis magis albo notatis, secundariis nonnullis in pogonio interno purè albis : scapularibus, uropygio imo et supracaudalibus albis : rectricibus duabus externis utrinque purè albis et corpore subtùs toto albo.

Adult Female (Lake Kaplan-kul, Nov. 25th). Upper parts pale French grey, much paler than in *L. excubitor*; forehead, lores (except a small spot in front of the eye which is black), and a broad superciliary stripe pure white; primaries and secondaries white on the basal two-thirds, forming a large white alar patch; the secondaries very white on the inner web, some having the inner web pure white, and all tipped with white; scapulars, lower rump, and upper tail-coverts white; basal portion of the tail white, the two outer rectrices on each side pure white, the third with very little black, the fourth and fifth black broadly tipped with white, the two middle feathers black except at the base; ear-coverts and a small spot in front of the eye black; chin, throat, and underparts pure white: upper mandible horny black, lower mandible pale at the base, becoming dark horn towards the tip; legs black; iris dark brown. Total length about 9·5 inches, culmen 0·9, wing 4·55, tail 4·5, tarsus 1·05.

Adult Male (Lake Kaplan-kul, Nov. 5th). Closely resembles the female, but rather larger in size, viz.: culmen 0·9, wing 4·7, tail 4·75, tarsus 1·1.

Obs. The best character by which the present species can always be separated is the large amount of white on the secondaries, some of which invariably have the entire inner web white, which is never the case even in very pale examples of *Lanius excubitor*. In this respect, however, there are individual variations, and the specimen in the British Museum has the innermost secondaries white.

THIS extreme form of *Lanius excubitor* occurs from Transcaspia to Eastern Turkestan and north to Krasnoyarsk.

Mr. Zarudny observed, but did not obtain, White-winged Shrikes, doubtless the present species, between Kulkulais and the Soumbar in the summer of 1884, and again in September 1886, between the Soumbar and the village of Noukhour; and Messrs. Radde and Walter (Vög. Transcasp. p. 68) obtained an old female, which was, they say, a typical *Lanius leucopterus*, near Askabad on the 7th of March, 1886. Severtzoff records it as found in Turkestan during passage,

and to some extent it is also resident there. Russoff also obtained it at Tashkend and Tschinas, and Col. Biddulph shot a specimen at Marál Báshi in January 1874.

In the western portion of its range *Lanius leucopterus* meets *Lanius excubitor*, of which a pale form having, as a rule, more white on the wings and tail than in western specimens, and thus exhibiting a tendency towards *L. leucopterus*, appears to predominate there. This form has been described as specifically separable from *L. excubitor*, under the name of *Lanius homeyeri*, by Dr. Cabanis (J. f. O. 1873, p. 75); but in this I cannot agree, as it has no definite geographical range, and there is no character by which it is separable from *L. excubitor*, and all that one can say is that in the eastern portion of its range *Lanius excubitor* has more white on the wings and tail than, as a rule, is the case in examples from the extreme western portion of its range; but the pale form, so-called *L. homeyeri*, occurs in the extreme west, though not so commonly as in the east, and typical *L. excubitor* is also found, together with the pale form, in the east.

How far east the present species ranges it is somewhat difficult to state with any degree of certainty, but in China it is replaced by another form of Grey Shrike, *Lanius sphenocercus*, which differs in having a much longer tail, in having less white on the wings and tail, and being darker in general tone of colour, the rump being grey and not white. How far this species ranges in China I cannot say, but it is said to inhabit Southern China, and I have a specimen from Pekin in Northern China.

According to Professor Bogdanoff, Col. Prjevalsky met with *Lanius leucopterus* in Mongolia between the post of Ssaissansk and Putchen, and near Carashar; and Mr. Pleske states that Messrs. Grum-Grzimailo obtained a male at Dshimyssar in the Gutchen district, and a female at Tschikty in the Turfan district. It is found in Central Siberia, and Mr. Seebohm (Ibis, 1882, p. 421) records two as having been obtained near Krasnoyarsk.

In habits and mode of nidification the present species doubtless assimilates closely with *Lanius excubitor*, but I find no details on record respecting it.

The specimen figured is the female above described, and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kaplan-kul, Ferghana, November 5th; *b*, ♀ *ad.* Kaplan-kul, November 25th (*Severtzoff*).

E Mus. Brit.

a, ♀ *ad.* Marál Báshi, January 1874 (*Col. J. Biddulph*).

LANIUS FALLAX.

(FINSCH'S GREY SHRIKE.)

Lanius meridionalis, Tristram, Ibis, 1862, p. 279 (nec Temm.).

Lanius excubitor, Tristram, Ibis, 1867, p. 364 (nec Linn.).

Lanius lahtora, Heuglin, Orn. N.O.-Afr. i. p. 483 (1871, nec Sykes).

Lanius fallax, Finsch, Trans. Zool. Soc. vii. p. 249, pl. xxv. (1872).

Lanius lahtora, Sharpe & Dresser, B. of Eur. iii. p. 381 (1872, partim).

Lanius uncinatus, Sclater & Hartlaub, Proc. Zool. Soc. 1881, p. 168.

Lanius algeriensis, Meade-Waldo, Ibis, 1889, p. 10 (nec Linn.).

Abou seround, Booras, Arabic (*fide* Tristram).

Figura notabiles.

Finsch, Trans. Zool. Soc. vii. pl. xxv.; Sharpe & Dresser, B. of Eur. iii. pl. 146 (upper figure).

Ad. corpore suprâ saturatiore, subtùs albido-cinereo, hypochondriis cinereis: uropygio et supracaudalibus saturatè cinereo-canis dorso concoloribus: scapularibus vix albido apicatis: plaga alari minore: secundariis nigris, in pogonio interno albo marginatis et albo apicatis: tectricibus alarum minoribus nigris vix cinereo notatis: rectrice extimâ in pogonio externo albâ et in pogonio interno nigrâ, conspicuè albo apicatâ, sequentibus minus albo apicatis et rectricibus centralibus omnino nigris: remigibus secundariis in pogonio interno ferè nigricantibus: rostro, pedibus et iride sicut in *L. elegante* picturatis.

Adult Male (Gennesareth, March 9th). Differs from *Lanius elegans* in having the upper parts of a darker grey, the underparts greyish white, the flanks grey; rump and upper tail-coverts grey like the back; scapulars grey, slightly tipped with white, alar patch small; secondaries black, margined with white on the inner web, and tipped with white; lesser wing-coverts black, slightly intermixed with grey; outermost tail-feather with the outer web white and the inner web black broadly tipped with white, the following ones with less white, and the central ones entirely black; inner webs of the secondaries chiefly blackish; soft parts as in *L. elegans*. Total length about 9 inches, culmen 0·85, wing 4·25, tail 4·3, tarsus 1·25.

THE present form is found in the Canary Islands, in N.E. Africa (so far as we at present know) east of the Nile, in Palestine and Mesopotamia, and eastward to Baluchistan and probably also as far as the Deccan, but this apparently interrupted distribution will probably be found hereafter to be erroneous.

In the Canary Islands it is found commonly in Fuerteventura, and also occurs on all the other islands of this group. According to Mr. Meade-Waldo (Ibis, 1890, p. 430) the distribution in Teneriffe is rather peculiar. It frequents the hot *Euphorbia*-covered slopes close to the sea on the south side of the island; it is almost equally common and resident all the year on the

“Cumbre” 5000 to 7000 feet, and is seldom or never seen on the north or west side of the island. I have carefully compared specimens from the Canaries with the type of *L. fallax* in the British Museum, and find them agree very closely, and one specimen from Fuerteventura is absolutely identical in every respect, except that it has a somewhat shorter wing.

As yet the distribution of the present form in Africa is but imperfectly known. So far as I can ascertain there is no certain record of its occurrence west of the Nile, but it stands to reason that it must in all probability occur in the countries intervening between that river and the Canaries. Dr. Finsch obtained his specimens in the Bogos country, Mr. Blanford obtained it at Ain-Habab in Abyssinia and at Annesley Bay, and von Heuglin (*l. c.*) records it from the coasts of Abyssinia, Dahlak, and Tedjura. According to Mr. Oates it has also been obtained at Muscat. In Palestine it is, according to Canon Tristram, the commonest Shrike, and is resident all the year in every part of the country; and I may here remark that all the references in the ‘Birds of Europe’ relative to *Lanius lahtora* in Palestine pertain to the present form. To the eastward *Lanius fallax* occurs in Mesopotamia, Afghanistan (*fide* Oates), and Baluchistan, where Mr. Blanford obtained it at Gwádar, and Mr. Oates (Faun. Brit. Ind., Birds, i. p. 461) states that a Shrike obtained by Lieut. Burgess, probably in the Deccan, must be referred to the present form.

In habits *Lanius fallax* assimilates closely with its allies. Von Heuglin states that in North-east Africa he found it frequenting bare rocks and cliffs, where there was scarcely a trace of tree-growth, and wherever there was an isolated half-withered acacia, one of these Shrikes might be seen perched on its summit. Canon Tristram says that in Palestine, in the winter season, its favourite perch is the outermost bough of some bare prickly shrub, and that when approached it simply flits to the outside of the next bush.

Its nest, according to Canon Tristram, is well defended by thorns from the attacks of hawks, and is placed in the middle of a jujube-tree, and the eggs are deposited in March, and I may remark that eggs I have received from the Canaries were also all taken in that month. Von Heuglin states that in N.E. Africa he often found the nest in the eyrie of the Osprey, or at least covered by the latter, more seldom placed on *samra* or balsam-bushes, and generally at an altitude of from four to eight feet above the ground.

The eggs, usually four or five in number, are dull light stone-grey in ground-colour, and are covered with pale purplish-brown underlying shell-blotches, and dull liver-brown or nut-brown surface spots and blotches.

As stated in the article on *Lanius elegans*, *Lanius lahtora* and the present bird can only be regarded as belonging to closely allied forms or subspecies of the same species; and *Lanius fallax*, like the other allied forms, is subject to a considerable amount of variation, both as to tint of colour on the upper and under parts, and also as to the amount of grey on the lesser wing-coverts. Some specimens from the Canaries are lighter and others darker; some have the lesser wing-coverts almost entirely grey, whereas others (especially one, a female, from Guia, Teneriffe, in Canon Tristram’s collection) have them black, with very slight grey tips. All, however, differ from *L. algeriensis*, not only in having the upper and under parts much paler, but also in having a narrow white superciliary stripe, and in having the chin and throat white, and not grey. Specimens from Abyssinia vary somewhat, though scarcely so much as those from

the Canaries, and one from Muscat in the British Museum has the lesser wing-coverts entirely grey. Specimens from the Canaries have a shorter wing than those from other localities, the length averaging only about 3·85 to 3·9 inches. *Lanius uncinatus*, from Socotra, is at best a very doubtful species, differing from typical *L. fallax* merely in having a somewhat stouter and more hooked bill; but there are a good many intermediate specimens, and I have no hesitation in uniting this form with *L. fallax*.

Specimens of *Lanius fallax* from Palestine agree closely with dark examples from the Canaries and with Abyssinian specimens, but as a rule they have more black and less grey on the lesser wing-coverts, and in that respect approach more nearly to *Lanius lahtora*, from which, however, this form is distinguishable by its darker colour, grey underparts, and darker inner webs to the secondaries.

In the British Museum Catalogue, *Lanius pallidirostris*, Cassin (Proc. Ac. Nat. Sci. Philad. 1851, p. 244), *Lanius aucheri*, Bp. (Rev. et Mag. de Zool. 1853, p. 294), and *Lanius pallens* (Rev. et Mag. de Zool. 1853, p. 433), the last given in error as *Lanius pallidus*, De Fil., are included in the synonymy of this Shrike; but this appears to me to be erroneous. Cassin's description of *L. pallidirostris* does not in any respect agree with *L. fallax*, but much better with *L. elegans*, as he describes it as being paler than *L. excubitor*, with much white on the wings, and with the underparts white with a rose tinge; *Lanius pallens* is mentioned in a footnote at the page in the Rev. et Mag. de Zool. above cited as *L. pallens*, Rüpp., without any description, and I cannot find it described in any of Rüppell's works; *Lanius aucheri* is described by Bonaparte as resembling *L. lahtora*, but intermediate between *L. lahtora* and *L. excubitor*, though duller, and without any white on the back, the tail longer, the feathers narrower, the tail and wings with less white on them, and the secondaries short. This description may or may not refer to *L. fallax*, but is too vague to enable anyone to say to which species it refers, and should therefore be expunged from the synonymy of the present species. The upper figure on Plate 146 in the 'Birds of Europe' is referable to the present species, and I have not deemed it necessary to give an illustration of it now, as the distinctions are more easily described than shown on a plate.

The specimen described is in my own collection.

Besides the series in the British Museum I have, in the preparation of the above article, examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Gennesareth, March 9th, 1864; *b*, ♂. Gennesareth, March 8th, 1864 (*H. B. Tristram*). *c*. Fuerteventura, Canaries, March 1889 (*Dr. Percy Rendall*).

LANIUS ELEGANS.

(PALLID SHRIKE.)

- Lanius elegans*, Swains. Faun. Bor.-Am. ii. p. 122 (1831).
Lanius leucopygus, Hemp. & Ehr. Symb. Phys. Av. i. fol. d, sine diagn. (1828).
Lanius pallidirostris, Cassin, Proc. Ac. Nat. Sci. Philad. 1851, p. 244.
“? *Lanius pallens*, Rüpp.,” id. tom. cit. p. 433.
Lanius dealbatus, De Fil. Rev. et Mag. de Zool. 1853, p. 289.
Lanius assimilis, A. & L. Brehm, J. f. Orn. 1854, p. 147.
Lanius leuconotus, id. tom. cit. p. 147.
Lanius orbitalis, Licht. Nomencl. Av. p. 12 (1854).
Lanius hemileucurus, Finsch & Hartl. Vög. Ost-Afr. p. 329 (1869).
Collyrio pallens (Cassin), Gray, Hand-l. of B. i. p. 391. no. 5932 (1869).
Collyrio elegans (Swainson), Gray, l. c. no. 5936 (1869).
Collyrio hemileucurus (Finsch & Hartl.), Gray, l. c. no. 5941 (1869).
Lanius lahtora (partim), Dresser, B. of Eur. iii. p. 381 (1872).

Figuræ notabiles.

Dresser, B. of Eur. iii. pl. 146 (lower figure); Gadow, Cat. B. Brit. Mus. viii. pls. vi., vii.

Ad. suprà pulchrè canus, scapularibus et uropygio imo albis: subtùs purè albus: lineâ frontali, loris cum regione oculari et paroticâ nigris, albo angustè marginatis: tectricibus alarum minimis canis, majoribus cum alâ spuriâ nigris: remigibus nigris, primariis ad basin albis, secundariis albo marginatis et apicatis: rectricibus centralibus nigris angustè albo apicatis, duabus externis omninò albis: scapis tantum nigris, proximo pogonio interno ferè nigro: subalaribus et secundariis subtùs in pogonio interno albis: rostro pedibusque nigricanti-corneis: iride fuscâ.

Adult (Algeria). Upper parts pale French grey, underparts pure white; lower rump white; upper tail-coverts pale French grey; a very narrow frontal line, lores, and a broad patch passing through and behind the eye deep black, narrowly margined above with white; wings black, the primaries with the basal portion pure white, forming a large alar patch, and narrowly tipped with white; secondaries with most of the inner web and the terminal portion white, the two innermost, however, black tipped with white; scapulars white, the lesser wing-coverts grey; central rectrices black, slightly tipped with white, the outermost tail-feather white, the next white with a narrow black shaft-line, and the next two black, broadly tipped with white; under wing-coverts and inner webs of the secondaries white: bill and legs blackish horn; iris brown. Total length about 9 inches, culmen 0·8, wing 4·1, tail 4·4, tarsus 1·2.

WHEN in 1871 and 1872 Dr. Sharpe and myself wrote the articles in the ‘Birds of Europe’ on the Grey Shrikes we deemed it advisable to unite under *Lanius lahtora* all the closely allied forms, which Dr. Gadow (Cat. B. Brit. Mus. viii. pp. 247–252) differentiates under the names of *Lanius lahtora*, *L. fallax*, *L. assimilis*, *L. hemileucurus*, *L. dealbatus*, and *L. elegans*; and to those

ornithologists who prefer lumping to splitting this view would even now recommend itself. It has, however, of later years become the usage to recognize local forms or subspecies to an extent that was then barely thought of, except by Brehm and his disciples; and, taking this view of the question, I have, with the experience and data collected during the past twenty years, found it necessary to recognize four subspecies, viz. *L. lahtora*, *L. grimmi*, *L. fallax*, and *L. elegans*, the last being the species of which I will now treat.

The range of *Lanius elegans* extends eastward into Central Asia, and westward to Algeria, but it does not appear to have been met with in Europe north of the Mediterranean, nor, in fact, in North Africa (*fide* Tristram, *Ibis*, 1884, p. 400) north of the Atlas range; but it is stated by the late Dr. Taczanowski to be common on the southern slopes of that range and also in the desert portion of Algeria. All the notes in our article in the 'Birds of Europe' on *Lanius lahtora* referring to its occurrence in Algeria, Egypt, and Nubia are referable to the present species. Canon Tristram met with it on the northern borders of the desert of Algeria; and Mr. J. H. Gurney, jun., records it as being extremely common in the Mزاب country. Dr. Koenig also found it numerous in Tunis, south of El Djem, near which place it was breeding commonly late in April. In East Africa it occurs from Egypt southward to the White Nile, and there is in the British Museum a specimen from the Eyton collection, obtained at Kordofan. In Palestine the present form is replaced by the closely allied *Lanius fallax*; but it doubtless occurs in Asia Minor, as Professor Bogdanoff states (*Sorokoputui Russkõi Faunui*, p. 160) that he examined two specimens from the collection of Noie, of Constantinople, which were probably obtained by him in Asia Minor, and not in European Turkey. Dr. Radde records (s. n. *Lanius lahtora*) a single occurrence at Lenkoran, on the Caspian; but his description tends to show that the specimen in question may possibly be referable to *Lanius grimmi*, and this cannot be decided without a careful comparison, which I have not had an opportunity of making. It certainly occurs, however, in Transcaspia, as I have a specimen from Beum-basch, for which I am indebted to Dr. Radde, who states (*Vög. Transcasp.* p. 67) that he obtained two examples at that place, and one at Perewalnaja; but Mr. Zarudny does not include it in his list of the birds of Transcaspia.

According to Mr. E. W. Oates (*Faun. Brit. Ind.*, *Birds*, i. p. 460) it occurs at Fao, on the Persian Gulf, and in Mesopotamia; Dr. Aitchison procured it in Afghanistan, and it has been obtained in Sind and in the Punjab. Dr. Gadow (*l. c.*) states that it occurs through Turkestan to the Amoor; but I find no confirmation of this statement, and have not seen any specimen from so far east as the Amoor. According to Bogdanoff, however, Severtzoff obtained one on the Amu-Darja, and Przevalsky also procured one on the Haidongol River, in the Eastern Tian-shan.

I may here remark that the Indian form, the true *Lanius lahtora*, Sykes, does not occur within the limits of the Western Palæarctic Region; and in the article on *L. lahtora* (*B. of Europe*, iii. pp. 381-385) all the data, excepting that referring to its presence in India, are referable to the present species and *L. fallax*, and the two birds figured belonged to the present and not to the Indian form, as did also the specimen described.

In habits, note, and mode of nidification *Lanius elegans* does not differ from its near allies. Dr. Koenig remarks that in Tunis, whereas *L. algeriensis* inhabits the northern and mountainous portion of the country, the present species is only found in the desert, where it may be seen

perched on the top of a sarib bush, or flying in easy undulating lines, or else hovering over its prey. Mr. J. H. Gurney, jun., says that their favourite perch is the bottom of a crest of a palm where the fronds are broken short, where they can easily dart off to snatch a passing beetle, or rise into the air after a more high-flying locust. He also adds that it is an excellent mimic.

Dr. Koenig obtained many nests of this Shrike in Tunis, which he describes as being large and bulky, constructed of dry twigs, bents, and portions of plants, and lined with fine bents, wool, plant-cotton, and bits of rags.

The eggs, usually six in number, but varying from five to seven, are pale greenish yellow, with underlying dull lilac shell-markings, and liver-brown overlying spots and blotches, and closely resemble those of *Lanius algeriensis* both in form and size.

Lanius elegans was first described by Swainson (*l. c.*) as an American bird, from a specimen in the British Museum presented by the Hudson Bay Company, without any indication as to locality; but an examination of the type, which is still in the British Museum, clearly shows that it must have come from North Africa or Western Asia, and not from America, though it was sent to the British Museum with other birds from the fur countries. I have carefully compared the type with my series and it agrees closely with my specimen from Transcaspia.

The specimen above described is the bird figured in the 'Birds of Europe,' pl. 146, lower figure, and is specimen *a* in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum and in the collection of Canon Tristram, the following specimens:—

E Mus. H. E. Dresser.

a, ad. Algeria (*Fairmaire*). *b*, ♀. Tuggurt, Algeria, December 27th, 1861 (*Canon Tristram*). *c*, ♀. Thebes, January 24th, 1863 (*J. H. Cochrane*). *d*, ♂. N. Africa (*Verreaux*). *e*, ♀. Beum-basch, Transcaspia, May 1st (*Dr. G. Radde*). *f*, ♂. Urtun, near Tschimkent, April 25th (*Prof. Menzbier*).



From the collection of the British Museum

RADDE'S SHRIKE.
LANIUS RADDII.

Illustrated by Mr. J. A. Rehn.

LANIUS RADDII.

(RADDE'S SHRIKE.)

Lanius raddei, Dresser, P. Z. S. 1888, p. 291.

Otomela bogdanowi, Schalow, J. f. Orn. 1893, p. 116 (nec Bianchi).

Lanius bogdanowi, Dresser, Ibis, 1893, p. 378 (nec Bianchi).

Figura unica.

Dresser, Ibis, 1889, pl. v.

♂ *ad.* suprà canus : dorso pallidè fusco-cinereo lavato : uropygii lateribus albis : fronte et superciliis albis : lineâ angustè frontali et loris cum regione paroticâ nigris : alis nigricantibus, tectricibus alarum cum secundariis fuscis cinereo marginatis, secundariis majoribus albo angustè terminatis : speculo alari angustiore : rectricibus nigris, duabus extimis albis, lineâ centrali nigrâ versus apicem magis extensâ notatis, reliquis nigro notatis : mento, gutture et corpore subtùs albis : hypochondriis pallidè cervino lavatis.

Adult Male (Kulkulais, September 5th). General colour above bluish grey, much lighter and clearer on the crown and forehead, the latter and a line over the eye white; a narrow frontal line, the lores, and a band passing through the eye and covering the ear-coverts black; lower part of the mantle brownish buff; wings dull blackish, the secondaries narrowly margined with dull white; alar patch very small; median tail-feathers black, the outermost rectrix on each side white, but with a black line along the shaft which broadens considerably towards the tip, the next two with much more black towards the tip; chin, throat, and underparts generally, with the under wing-coverts, pure white; flanks washed with pale warm buff: bill and legs black. Total length about 6·75 inches, culmen 0·6, wing 3·55, tail 3·2, tarsus 0·9.

THIS Shrike is as yet so little known that, so far as I can ascertain, there are at present but two specimens in any collection—the type, which is in my own collection, and one example in the collection of the late Dr. Severtzoff, which is now at Moscow. The former was obtained by Dr. G. Radde, at Kulkulais, in Transcaspia, and the latter, I think, in Turkestan, but I have not yet received particulars as to where Dr. Severtzoff obtained it.

When I described *Lanius raddii* I had not seen Dr. Bianchi's description of *L. bogdanowi*, and, indeed, it does not altogether agree with my bird; but Mr. Pleske when in England examined my specimen, and assured me that it was undoubtedly conspecific with that bird, and I therefore, as he was so certain about it, decided to adopt that name instead of *L. raddii*. Last autumn Prof. Menzbier, of Moscow, wrote to me saying that he had received a large series of Shrikes from Central Asia, some of which approached both *Lanius bogdanowi* and *L. raddii*, and asked me to lend my type for examination and comparison, which I at once did, and at the same time asked him to compare it with the type of *L. bogdanowi*, and to let me know the result as early as possible, as I had to send my article on the present species to the printers not later

than May. He returned my type in May, but was too busy to send me the particulars I required, and, taking it for granted that Mr. Pleske's identification was correct, I sent my article to press, having waited till the last moment, and it was duly put in type. Late in July, fortunately before I had issued the present Part IV., I received from Mr. P. Suschkin a separate copy of an article he has just written, describing a new Shrike from the Emba under the name of *Lanius elaeagni*, in which he states that Professor Menzbier had lent him for comparison both my type of *Lanius raddii* and Dr. Bianchi's type of *Lanius bogdanowi*, and that the unification of these two species was undoubtedly an error. *L. raddii* is, he adds, "much larger than *L. bogdanowi*, has a longer tail, the head is pure grey, lighter in shade than the back, and the back is greyer," but he does not enter into any further details. As, however, his comparison of the two types shows that they cannot be united, my only course was to cancel my article on this species, in which I had adopted Mr. Pleske's and Dr. Schalow's views, and united my species with *Lanius bogdanowi*, and to replace it by the present article. Mr. Suschkin adds that in the late Dr. Severtzoff's collection there is a specimen of *Lanius raddii* which agrees closely with my type; hence it would appear that the range of the present species extends from Transcaspia to Turkestan.

It appears to me that this Shrike is not very distantly connected with *Lanius vittatus*, although it differs considerably in several respects, especially in the absence of the rich maroon on the back, the broad frontal line, and the chestnut on the flanks. Last year (Ibis, 1894, p. 383) Professor Menzbier described a Shrike which he considers to be a hybrid between *Lanius dichrourus* and *Otomela karelini*, and remarked that he believed my *Lanius raddii* to be a similar hybrid in worn plumage. This, however, is not the case, as I convinced myself by a comparison of the specimen in question with my bird. On the other hand, I found on comparing my type of *L. raddii* with Dr. Menzbier's type of *Lanius dichrourus* (described, Ibis, 1894, p. 382) that these two birds resemble each other so closely that I much doubt if they can be separated specifically. As I then remarked (*t. c.* p. 385), it differs from *L. dichrourus* merely in having the upper parts paler and clearer in tone of colour, and in having more white on the tail-feathers. The pattern of the tail is precisely the same as in the type of *L. dichrourus*; but in the latter the outer tail-feather on each side has the terminal third black margined with white, whereas in my bird the black is restricted to a line along the terminal third of the shaft, broadening considerably towards the tip. I may best describe my bird as closely resembling a specimen of *L. karelini* sent at the same time by Prof. Menzbier, except that the tail, instead of being rufous, is similar to that of *L. dichrourus*, though it has more white on it, and it appears to me very possible that *L. dichrourus* may prove not to be a good species. Lack of material, however, makes it impossible to settle these questions here; but as Professor Menzbier informs me that he has a large series of Shrikes from Central Asia, and that he is busy working at this group, he will doubtless throw much light on the subject in his 'Ornithologie du Turkestan.'

The specimen figured and described is the type, and is in my own collection. It was obtained at Kulkulais, Transcaspia, on the 5th September (24th August, old style), 1886, by Dr. G. Radde.

MUSCICAPA SEMITORQUATA.

(CAUCASIAN PIED FLYCATCHER.)

- ? *Muscicapa albicollis* (nec Temm.), Ménériés, Cat. rais. p. 29 (1832).
Muscicapa atricapilla (nec Linn.), Nordm. in Démid. Voy. Russ. Mérid. iii. p. 198 (1842).
Muscicapa atricapilla (nec Linn.), Blanf. E. Persia, ii. p. 143 (1876).
Muscicapa atricapilla (partim), Sharpe, Cat. B. Brit. Mus. iv. p. 157 (1879).
Muscicapa atricapilla (nec Linn.), Radde, Orn. Caucasica, p. 287 (1884).
Muscicapa semitorquata, E. F. von Homeyer, Zeitschr. gesamt. Orn. 1885, p. 185.

Figura unica.

Homeyer, ut suprâ, pl. x.

♂ *ad. M. atricapillæ* similis, sed vittâ frontali majore : collo semitorquato, alis et caudâ magis albo notatis : rectrice extimâ utrinque albâ in pogonio interno versus apicem nigro notatâ, rectrice secundâ albâ in pogonio interno et externo magis nigro notatâ, rectricibus reliquis nigris.

♀ *ad. M. atricapillæ* similis, sed alis et caudâ magis albo notatis.

Adult Male (Ortakeuy, April 6th). Resembles the very adult male of *Muscicapa atricapilla*, but the white patch on the forehead is rather larger, there is a white semicollar passing halfway round the neck on each side, and separated on the hind neck by a black patch about half an inch wide, which joins the black on the head to that on the back; wings as in *M. collaris*, with the white patch much larger than in *M. atricapilla*; outer tail-feather on each side white, with a terminal black patch on the inner web, the next one white, with a larger black terminal patch covering both webs, rest of the tail black; the black portion of the plumage of a clear deep black. Total length about 5 inches, culmen 0·4, wing 3·2, tail 2·0, tarsus 0·7.

Adult Female. Resembles the female of *M. atricapilla*, but has, as a rule, more white on the tail and wings; but after a careful comparison of specimens I cannot find any constant character by which the females of the two species can always be separated.

Nestling (Transcaucasia, June 6th). Undistinguishable from the nestling of *M. atricapilla*.

Obs. The amount of white on the tail in the male appears to vary somewhat according to the age of the bird; thus in the male from Lenkoran, which is evidently rather a younger bird than the other three specimens I have before me, the white on the tail is scarcely more developed than in a very old *M. atricapilla*.

The following table will best describe the differences between the three species of Pied Flycatcher :—

<i>M. atricapilla.</i>	<i>M. collaris.</i>	<i>M. semitorquata.</i>
Forehead with a small white patch, which in some specimens is reduced to a few white feathers.	with a large white patch, which in some specimens extends from the base of the bill to a line drawn over the head in front of the eyes.	with a white patch nearly as large as in <i>M. collaris</i> .
Neck: without any trace of a white collar.	with a broad white collar extending right round.	with a white semicollar extending about halfway round, but not meeting behind.
Wings: secondaries with but comparatively little white, the alar patch being but small.	with a broad and conspicuous white patch.	alar patch about as large as in <i>M. collaris</i> .
Tail: black with but little white, this colour being usually restricted to the outer web of the external tail-feather.	black, occasionally in very old males with a narrow line of white extending over part of the outer web of the external tail-feather.	external tail-feather white, with a large black terminal patch on the inner web; the next feather white, with a rather larger terminal black patch on both webs; rest of the tail black.

The four males (from Ortakeuy, Lenkoran, Choula, and Batoum) vary but little in size, the measurements being as follows:—Culmen 0·4 to 0·45 inch, wing 3·15 to 3·2, tail 2·0 to 2·1, tarsus 0·7 to 0·72.

As above stated, there does not appear to be any constant character by which the female of *M. semitorquata* may be always separated from that of *M. atricapilla*. Von Homeyer says that in the former the two outer tail-feathers have the outer web white, usually to within 1 cm. of the tip, the third having a white edge only, but I do not find this constant; and in the immature and nestling plumages it is impossible to separate the two species.

In the present day the tendency amongst ornithologists is towards a subdivision of species to an extent that was never thought of twenty years ago; and though I personally am far more disposed to “lump” than to “split,” I find myself compelled, to some extent, to march with the times. Thus in the case of a form differing but slightly, though constantly, and having a distinct geographical range, I hold that it is necessary to recognize it as a distinct species, as, for instance, in the case of *Picus leucopterus* and *Lanius leucopterus*, which are eastern representatives respectively of *Picus major* and *Lanius excubitor*, and in the present case we have a similar instance of a closely allied form occupying a distinct range. In Europe we have *Muscicapa atricapilla* inhabiting Europe generally from Scandinavia to the extreme south, ranging in winter into Africa, and *Muscicapa collaris*, which is found from Central Europe to the Mediterranean and in Asia Minor. Eastward of Asia Minor, however, these two are replaced by the present species, and, so far as I can judge, *Muscicapa atricapilla* does not range further east than the borders of Europe, nor *M. collaris* further east than Asia Minor.

Muscicapa semitorquata, the present species, inhabits Southern Russia, the Caucasus, ranging eastward into Persia, and appears occasionally to straggle as far west as Turkey, as I

have in my collection a specimen from Ortakeuy, obtained there many years ago by the late Mr. Robson. Nordmann (Démidoff's Voy. dans la Russ. Mérid. iii. p. 198) records a Pied Flycatcher, which I believe to be the present species, as being "common on the shores of the Black Sea"; and Ménétriés says (Cat. rais. p. 29) that he saw *M. collaris* in the ruins at Baku, a somewhat curious place for a Pied Flycatcher; but if he did see a Pied Flycatcher there, I believe that it was the present species and not *M. collaris*. From Dr. Radde's remarks on *M. atricapilla*, in his 'Ornis Caucasica,' I felt sure that it was the present species about which he was writing, and I therefore wrote and asked him to send me a specimen; and he at once forwarded one, which proved that my surmise was correct.

Mr. E. F. von Homeyer was the first who observed that the Pied Flycatcher of the Caucasus differed from our European bird, and gave (*l. c.*) an excellent description and figure of it. He examined six specimens from the Caucasus, sent to him by Dr. Radde, all of which agreed *inter se*. Dr. Radde says (*l. c.*):—"I did not meet with it at so great an altitude (7000 feet) as Mr. Blanford. At Achalzich, at the foot of the Schambobel, I observed it in light brush-wood at an altitude of about 4000 feet. It breeds in the neighbourhood of Tiflis in the lower Aragwa Valley, and the male is often seen perched on the *Paliurus* bushes. On the 23rd March we observed the first arrivals at Lenkoran; but the main migration was not until the 13th to the 17th April in the coast-region, and but few Swallows, Martins, and Flycatchers survived near Lenkoran then. On the 16th numbers were caught by hand. The males of this species also migrate first, and not together with the females." Messrs. Radde and Walter do not appear to have observed it in Transcaspia; but Mr. Nazaroff states that a Pied Flycatcher nests in the forest-region of the Kirghis Steppes; and Mr. Zarudny (Rech. Zool. Transcasp. p. 58) says that he obtained a female Pied Flycatcher near Douchak on the 9th of May, and that it nests in the wooded valley of Kelté-Tschinar, both of which notes I believe to refer to the present species.

From an examination of specimens in the British Museum I am enabled to say that the Pied Flycatcher of Persia is referable to the present form, and not to *M. atricapilla* or *M. collaris*. De Filippi states that he obtained *M. collaris* in gardens at Tabriz; but, as I am informed by Count Salvadori, there is no specimen of a Pied Flycatcher in his collection at Turin, and the bird referred to was doubtless the present species. Mr. Blanford obtained three specimens, all in immature dress, in the Karij Valley, Elburz Mountains, where, he says, it abounded in the valleys of the Elburz, but he never met with it in Southern Persia.

As the characteristic differences in the present species are shown better in the above table than they would be in an illustration, I have not deemed it necessary to give a Plate of it.

The adult male above described is in my own collection, and I am indebted to Professor Menzbier, of Moscow, for the loan of the nestling.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Ortakeuy, Turkey, April 6th, 1865 (*Robson*). *b*, ♂. Lenkoran, March 30th, 1879 (*Dr. G. Radde*).

E Mus. Moscov.

a, ♂ *ad.* Wood between Choula and Anvina, Transcaucasia, 2500 feet, June 4th, 1893; *b*, ♂ *ad.* Alexander Garden, Batoum, April 1st, 1894; *c*, ♀ *pull.* Between Choula and Anvina, June 6th, 1893 (*Prof. Menzbier*).

E Mus. Brit.

a, ♂. Fao, January 1877 (*W. D. Cumming*). *b*, ♂. Bushire, April 1855 (*A. J. V. Palmer*). *c*, ♂, *d*, ♀. Persia (*Warwick*). *e*, ♀ *juv.* Karij Valley, N. Persia, 6500 feet, August 10th, 1872 (*W. T. Blanford*).



DOCUMENTS DE L'ÉTUDE

Munich, Bros and

HIMALAYAN GOLDFINCH.
CARDUELIS CANICEPS.

CARDUELIS CANICEPS.

(HIMALAYAN GOLDFINCH.)

Passer carduelis, var., Pall. Zoogr. Ross.-As. ii. p. 16 (1811).

Carduelis caniceps, Vigors, P. Z. S. 1831, p. 23.

Fringilla orientalis, Eversmann, Add. Pall. Zoogr. Ross.-As. fasc. ii. p. 9 (1841).

Fringilla caniceps (Vig.), Gray, Gen. of B. ii. p. 371 (1849).

Carduelis subulatus, Cab. in Ersch & Grub. Encycl. 1st sect. vol. 50. p. 217 (1849).

Carduelis orientalis (Eversm.), Bp. Consp. Gen. Av. i. p. 518 (1850).

Fringilla (Carduelis) orientalis (Eversm.), Gray, Hand-l. of B. ii. p. 80. no. 7172 (1870).

Fringilla (Carduelis) caniceps (Vigors), Gray, ut suprâ, no. 7173 (1870).

Carduelis major caniceps, Seebohm, Ibis, 1882, p. 424.

“*Shira*, Hind. ; *Saira*, Kashm.” (Oates).

Figure notabiles.

Gould, Cent. Himal. B. pl. xxxiii. fig. 1 ; Royle, Ill. Bot. Himal. i. pl. viii. fig. 2 ; Gould, B. of Asia, v. pl. xvii.

♂ *ad.* capite, collo et corpore suprâ pallidè fusco-cinereis, uropygio pallidiorè : supracaudalibus albis : fronte, facie et mento coccineis : caudâ alisque nigris, remigibus basi flavis, secundariis intimis in pogonio interno albo notatis : rectricibus quatuor centralibus albo apicatis, extimis in pogonio interno maculâ magnâ albâ notatis : subtùs albus, pectore sordidè cinereo lavato : rostro carneo-griseo, versus apicem fusco : pedibus pallidè carneo-fuscis : iride fuscâ.

♀ *ad.* mari similis, sed capite minus coccineo notato et alis minus flavo notatis.

Adult Male (E. Tian-shan, January 19th). Upper parts pale brownish ash, becoming paler on the rump ; upper tail-coverts white ; wings as in *C. elegans*, but on the innermost secondary there is a long white patch on the inner web, the next two with a smaller white patch on the terminal portion of the inner web ; tail black, the outermost feather with a long white patch on the inner web, the four central rectrices broadly tipped with white ; forehead, chin, and a line round the base of the beak crimson ; underparts white, washed with pale ashy brown on the throat and breast : bill fleshy grey, darker at the tip ; legs pale brown ; iris brown. Total length about 5·5 inches, culmen 0·65, wing 3·3, tail 2·2, tarsus 0·6.

Adult Female (E. Tian-shan, January 26th). Resembles the male, but the crimson on the head is paler and less extensive, and the yellow on the wings is less developed.

THIS, the eastern representative of our Common Goldfinch, has been met with as an occasional straggler as far west as the Ural, and ranges from Transcaspia eastward through Afghanistan to the Himalayas, and through Central Asia to Siberia in the north.

Professor Menzbier informs me that it is, according to Mr. Zarudny, an occasional visitor to the Orenburg district late in September and early in October. Dr. Radde found it common throughout the Transcaspian region wherever there were bushes or reeds, and it is also found high up in the mountains. Zarudny also observed it in large numbers between the 2nd and 14th May in the gardens in the Ahal-Téké oasis, and amongst the tamarisk-bushes on the banks of the Douchak; it was also tolerably numerous in the gardens of Merv, from whence it extends to the tamarisks on the sandy plains bordering the Alikhanow canal. Mr. Blanford did not meet with it in Persia, where he only observed *C. elegans*; but Sir O. St. John states (*Ibis*, 1889, p. 172) that it was very common in Kandahar in winter, but less so in Quetta; and Col. Swinhoe (*Ibis*, 1882, p. 115) records it from Quetta and Chaman in Afghanistan. Col. Biddulph, who met with it in Gilgit, says (*Ibis*, 1881, p. 85) that small flocks appeared from time to time during the season of extreme cold, but never seemed to remain more than two or three days at a time. They breed at about 9000 feet, and are common in Cashmere in summer as well as in winter; and Mr. Scully, writing also on the ornithology of Gilgit, states that it is very common at an elevation of about 5000 feet from the first week in November to the first week in March, and in summer is only found in the district at higher elevations, where it breeds. In India, according to Mr. Oates (*Faun. of Brit. Ind., Birds*, ii. p. 226), its range extends in the Himalayas from the Hazara country and Gilgit to Kumaun at altitudes of from 5000 to 9000 or 10,000 feet, according to season.

In Turkestan, Severtzoff found it common; and Mr. Pleske says (*Rev. Turk. Orn.* p. 17) that Russoff observed it at Tschinas, and in the Western Tian-shan at Baisim and Dscham, and found it breeding on the Iskander-kul; and the brothers Grum-Grzimallo obtained specimens in the Bogdo-ola Mountains, in the Eastern Tian-shan. In Siberia it is recorded by Mr. Seebohm (*l. c.*) as occurring at Krasnojarsk, from whence he obtained eleven specimens, all exhibiting a gradation between the present species and the eastern form of our common Goldfinch (*Carduelis major*), and it has been obtained as far east in Siberia as Kultuk, on the Baikal. According to Taczanowski (*Faun. Orn. Sib. Orient.* p. 636), Godlewski states that he only once met with it in the Baikal district, where it is of accidental occurrence. Four specimens were seen, all of which he obtained.

In habits the Himalayan Goldfinch is said to agree closely with our European bird, and, like it, affects open country, feeding chiefly on the seeds of the thistle. It breeds in the Himalayas at considerable altitudes, as also in Turkestan, but there is nothing on record respecting its nidification.

When the present species and the eastern form of the European Goldfinch meet, they appear to interbreed freely, as pointed out by Mr. Seebohm (*l. c.*) and other authors.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* January 19th; *b*, ♀. January 26th; *c*, ♀. January 28th, Ugam River, E. Tian-shan; *d*, ♂. Tashkend, November 30th (*Severtzoff*). *e*, ♀. Relete, Tschinas, Transcaspia, February 21st (*Dr. Radde*).



J. G. Keckman del.

Hanhart imp.

WHITEWINGED GROSBEAK
COCCOTHAUSTES CARNEIPES

COCCOTHAUSTES CARNEIPES.

(WHITE-WINGED GROSBEAK.)

Coccothraustes carnipes, Hodgson, Asiat. Research. xix. p. 151 (1836).

Coccothraustes speculigerus, Brandt, Bull. Acad. St. Pétersb. ix. no. 196, p. 11 (1842).

Hesperiphona speculigerus (Brandt), Bp. Consp. Gen. Av. i. p. 506 (1850).

Mycerobas carnipes (Hodgs.), Gould, B. of Asia, pl. xxi. (1851).

"*Coccothraustes albispecularis*, aliq.," G. R. Gray, Hand-l. of B. ii. p. 88 (1870).

Pycnoramphus carnipes (Hodgs.), Hume, Stray Feath. viii. p. 108 (1879).

Mycerobas carneipes (Hodgs.), Wardlaw Ramsay, Ibis, 1879, p. 448.

Pycnorhamphus carneipes (Hodgs.), Sharpe, Cat. B. Brit. Mus. xii. p. 47 (1888).

Figura unica.

Gould, B. of Asia, v. pl. xxi.

♂ *ad.* capite, collo, dorso, gula, gutture, pectore et abdomine supremo nigris, fumoso tinctis, loris intensè nigris : alis et caudâ nigris, remigibus extus angustè albido marginatis, primariis (extimo excepto) ad basin in pogonio externo albis, plagâ magnâ formantibus : secundariis intimis et tectricibus majoribus viridi-flavo terminatis : uropygio, abdomine imo, hypochondriis et subcaudalibus viridi-flavis : supracaudalibus nigris, viridi-flavo marginatis : tibiæ plumis cinereo-fuscis : subalaribus et axillaribus cinereis : maxillâ fuscâ, mandibulâ albido-corneâ : pedibus pallidè fusco-carneis : iride fuscâ.

♀ *ad.* mari similis, sed ubique sordidior et magis fusco-cinereo tincta : capitis lateribus, gulâ et pectore albido striatis.

Adult Male (near Kokand, February 13th). Head, neck, back, throat, breast, and upper abdomen dark sooty black, the lores deeper black ; wings and tail black, the quills externally margined, very narrowly, with dull white, all the primaries, but the first, white at the base on the outer web, forming a conspicuous white patch ; inner secondaries and the innermost larger wing-coverts broadly tipped with greenish yellow on the outer web ; rump, lower abdomen and flanks, and under tail-coverts greenish yellow ; upper tail-coverts black, margined with greenish yellow ; thighs ashy brown ; under wing-coverts and axillaries ashy grey : upper mandible brownish, the lower mandible whitish horn-colour ; legs pale fleshy brown ; iris hair-brown. Total length about 8·7 inches, culmen 0·7, gape 0·9, wing 4·8, tail 4·0, tarsus 1·1.

Adult Female (near Kokand, February 1st). Resembles the male, but is duller and greyer in colour, the portions of the plumage which in the male are black being ashy brown, and the cheeks, throat, and breast are striated with dull white.

A male from the Kopepet-dagh, obtained on the 27th July, is in moult, and has the plumage worn and paler than in the male above described.

As stated by Dr. Sharpe, Col. Biddulph found males breeding which had not attained the fully adult dress, but were in plumage like the female, and he believes that the young plumage of the male, which resembles that of the female, is retained till after the first breeding-season.

THE present species of Grosbeak inhabits the more elevated mountains from Transcaspia eastward through the Himalayas to Szechuen. Mr. Zarudny found it common in the eastern portion of the Kopepet-dagh range in Transcaspia; and Messrs. Radde and Walter write (Vög. Transcasp. p. 28) as follows:—"The fourteen specimens of this curious Finch which we collected were all obtained high up in the mountains, in the Karange-dagh gorge, where the collector Rubansky went to visit the Dom-tschi ponds. Dr. Walter met with it when ascending the Ak-dagh in May 1887 at the Kürtseverdeh-tschesme springs and on the borders of the Guljuli plateau, where it was extremely numerous in the junipers, especially on the steep precipices, where it certainly breeds. It feeds exclusively on the resinous berries of *Juniperus excelsa*. During the summer the same breeding-places are frequented by *Turdus viscivorus*, *T. torquatus*, *Metoponia pusilla*, and *Fringilla caelebs*, which also, it would appear, feed on these same berries. During the forenoon, usually between 10 and 11 o'clock, all these birds came regularly to the small watering-places to drink."

Dr. Severtzoff records it from Turkestan, and according to Pleske (Rev. Turk. Faun. p. 16) a large series of examples was obtained by Russoff at Wijukla-tau, near Saamin.

Major Wardlaw Ramsay shot a pair among the deodars near the camp at Byan Kheyl, in Afghanistan, on the 30th April; and Mr. Oates (Faun. of Brit. Ind., Birds, ii. p. 200) gives its range in British India as "the Himalayas from Gilgit to Sikhim, generally above 8000 feet, but occasionally descending to 5000 feet." According to Col. John Biddulph (Str. Feath. ix. p. 346) it is common in Gilgit at all seasons in the pine-forests above 8000 feet, seldom descending lower even in winter, but on one occasion during the severe winter of 1877-78 he shot a pair at 5000 feet elevation. Mandelli also obtained it in Sikhim. Col. Prjevalsky (B. of Mongolia, p. 296) states that he met with it in the Ala-shan Mountains, Kan-su, and the southern Koko-nor mountain-ranges, but it was not numerous in either range. In Kan-su it inhabits exclusively the juniper-range, up to the upper border of bush-growth. The Ala-shan range, he adds, forms there the northern limit of its range.* Mr. Seeböhm records it (Ibis, 1891, p. 374) from Western Szechuen.

With regard to its habits Zarudny writes (Bull. Soc. Mosc. iii. p. 795) that in Transcaspia it frequents the juniper-zone, and feeds on the berries of this tree. He frequently killed specimens which had the beak and head so covered with juniper-resin that he preferred not to skin them. Its flight is strong and noisy, and consists of strongly-defined curves, but the flight is not long sustained. It progresses awkwardly on the ground, where it is seldom seen. The call-note, usually uttered when the bird is on the wing, consists of two notes, which may be rendered *tyou-déric*, uttered jerkily, especially the former note. When wounded and captured it utters loud harsh cries. It comes down to running water several times in the day, especially in the morning and evening. It rarely bathes in the morning, but often during the heat of the day and hot evenings. All the rest of the day it frequents the junipers, passing with ease from branch to branch without fatiguing itself, and feeding on the berries. It passes the night amongst the

thickest branches, and sleeps so sound that if one marks the place where it roosts it is easy to climb the tree and catch the bird with the hand.

Messrs. Radde and Walter remark that, in spite of the proverbial stupidity of these birds, they acted most peculiarly, as when they had settled on the ground they jerked their tails sharply to the right and left continuously, uttering at the same time their harsh call-note.

Col. Prjevalsky states (Rowley's Orn. Misc. ii. p. 296) that in Mongolia "juniper-berries form its principal food, which are easily smashed by the strong bill of the bird. In Ala-shan, where juniper-bushes are not very abundant, it keeps to the fir-woods, and feeds on the seeds of the cones.

"This species is very lively and quick, and its flight is high and wavy. The call-note, either when the bird is on the wing or sitting, resembles somewhat the following syllables—'*teu-drick, teu-drick*'; but from the nest the adult birds call '*brijj, brijj*,' very much resembling *Carpodacus dubius*.

"I cannot state whether *M. carnipes* leaves the localities in which we found it, for the cold season, or not; but I am inclined to believe that the former opinion is the more likely, as early in May we observed, in Kan-su, small flocks of from five to ten individuals, which evidently were migrating or had just arrived. They kept principally to the juniper-bushes in the middle mountain-ranges. I then saw these birds for the first time running on the ground.

"The young males which I killed in the spring still resemble the females exactly; consequently it is most likely they get their full plumage after the second moult. In the middle of summer we obtained examples which had just commenced to get a few black feathers on the breast; these were probably a year old."

So far as I can ascertain, nothing is known respecting the breeding-habits of this Grosbeak, and none of the collectors above referred to succeeded in finding its nest and eggs.

The specimens figured are the male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kopepet-dagh, above Askabad, July 27th, 1886 (*Dr. G. Radde*). *b*, ♂, *c*, ♀. Osch, near Kokand, February 1st and 13th, 1882 (*Dr. Staudinger*).



J. B. Keulemans del et lith.

SAXAUT SPARROW.
PASSER AMMODENDRI.

Mintern Bros. imp.

PASSER AMMODENDRI.

(SAXAUL SPARROW.)

"*Passer ammodendri*, Severtz.," Dode, Proc. Zool. Soc. 1871, p. 481.

Passer stoliczkæ, Hume, Stray Feathers, ii. p. 516 (1874).

? "*Passer timidus*, Przewalski," Deditius, J. f. O. 1886, p. 527.

Passer severtzowi, Pleske, Bull. Ac. Imp. Sci. St. Pétersb. xiii. p. 282.

Vorobey sacsaulney, Russian.

Figura unica.

Gould, B. of Asia, v. pl. xv.

♂ *ad.* pileo, nuchâ, loris et lineâ per oculum usque ad nucham ductâ nigris: pilei et nuchæ lateribus rufescentibus: corpore suprâ sordidè cinereo-nigro striato: remigibus nigricantibus, albido marginatis et apicatis: secundariis intimis nigris, albido marginatis: tectricibus alarum minoribus nigris albo apicatis, reliquis sordidè cinereis, centraliter nigro notatis et albido marginatis: rectricibus cinereo-nigris, albido marginatis: subtùs albo, mento et gulâ nigris: rostro nigro: pedibus carneo-fuscescentibus: iride fulvo-fuscâ.

♀ *ad.* ubique sordidior, capite nec rufescente et nigro notato, sed pileo cervino-cinereo vix nigro-fusco striato: mento et gulâ cinereo-albis, hac centraliter nigricanti-cinereo tinctâ.

Adult Male in spring (Tedschen, April 1st). Crown, nape, lores, and a line through and behind the eye black, the feathers here and there with faint buff margins; a broad patch bordering the crown above the eye extended to the sides of the nape clear rufous; upper parts generally buffy grey, streaked with black; quills dull blackish, externally margined and tipped with dull white; the inner secondaries black with pale margins; lesser wing-coverts black, broadly tipped with white, remaining coverts buffy grey, with black centres to the feathers and margined with dull white; tail dull blackish grey, with dull white margins to the feathers; underparts white, with a large black patch covering the chin and throat: bill black; legs fleshy brown; iris chocolate-brown. Total length about 6 inches, culmen 0.5, wing 3.0, tail 2.6, tarsus 0.8.

Adult Male in autumn (Iany-Darja, October 30th). Differs from the male in spring plumage in having the feathers margined with greyish buff, the black in the plumage being thereby much obscured: bill dusky flesh-yellow, darker at the tip.

Adult Female (Iany-Darja, October 23rd). Differs from the male in being slightly duller in tone of colour, less streaked with black, and lacking the rufous and black on the head, the crown being buffy grey faintly streaked with blackish brown, and the chin and throat greyish white tinged with blackish grey along the centre of the throat.

THIS beautiful and very distinct Sparrow inhabits the saxaul district from Transcaspia and Turkestan to Alaschan and Ordos. Mr. Zarudny says (Bull. Soc. Mosc. iii. p. 801) that "it is evident that the Transcaspian district is the southern limit of the range of the Saxaul Sparrow,

as it has not yet been met with in Persia. In that portion of the Kara-Koum desert which is nearest to the Ahal-Téké oasis it is rare, owing probably to the saxaul-wood having been cut down, for the presence of these is essential to the residence of the Sparrow in those parts. It is very common in the saxaul-covered clayey plains of Tedgend, and a little rarer in the sandhills near Merv. I never met with it in the central course of the Murghab and in the vicinity of the Pindé oasis, although it would find there everything suitable to its requirements and tastes." According to Dr. Sharpe (2nd Yark. Miss. p. 40), Col. Biddulph obtained one or two specimens near Kashgar, and in January he found it tolerably plentiful along the road to Maralbashi.

In Turkestan it appears, judging from the number of specimens obtained by Dr. Severtzoff, to be tolerably common, and examples were sent to the brothers Grum-Grzimaïlo from Chami, Ssa-tschinsa in the Eastern Tian-shan, and from Ssy-dun and Schaldran in Bei-schan.

According to Col. Prjevalsky, the geographical distribution of this Sparrow depends much on that of the saxaul, but though the latter is common in Tsaidam, the bird does not occur there. The southern limit of its range appears to be the Kan-su mountains, whereas the Hurha range, in Gobi, forms the northern limit. Eastward it does not range beyond Ordos. Writing on its habits, Mr. Zarudny says (*l. c.*) "it avoids the saxaul thickets which are far from water, and is especially partial to sandy or clayey localities covered with thinly scattered saxaul-forests in the vicinity of a river or shallow well, where it can bathe or quench its thirst several times during the day, for water is a necessity as much as its food, which in summer consists chiefly of the seeds of the saxaul and other plants, of small beetles, and of many small orthopterous insects. Its flight is similar to that of the other Sparrows, but is swifter, and its call-note, though softer, resembles that of the Indian Sparrow. In the summer it lives in pairs and not in flocks."

Col. Prjevalsky, who met with it in Alaschan and Ordos, writes respecting its habits as observed by him there (Orn. Misc. p. 295) as follows:—"Unlike its congeners the present species avoids human habitations, and inhabits exclusively the deserts, especially the saxaul-thickets, on the seeds of which it principally feeds, as we usually (and even in spring) found these seeds in the crops of birds killed by us. *P. ammodendri* is very cautious, and does not often allow one to get within gun-range. Its flight is quick, and sometimes very high up in the air. The note is similar to that of *Passer domesticus*, only somewhat shriller. It breeds in the saxaul-trees, and mostly in old nests of Kites, and seldom makes its own, which, when it does build for itself, is of a large cylinder shape, about two feet long and about one foot wide at the bottom; but at the top it gets narrower, measuring only about half a foot. The outer structure consists of *Agriophyllum gobicum* and saxaul-twigs, but the interior is constructed of camel's hair, and usually lined with the feathers of *Grus virgo*.

"In the nests of Kites, even when they are occupied by the owners, these Sparrows build in the dry sticks which form the outer structure, and line them with camel's hair, but always make them cylindrical in shape. Occasionally they breed in ruined huts, or even in the walls of wells.

"The number of eggs varies from three to five. They are white with a brown shade, and spotted with reddish brown, the latter being more intense on the thick end. In length they measure from 0".81 to 0".92, and in breadth from 0".57 to 0".63.

"The young of the first brood are fledged in the first half of June. In the autumn they usually remain in pairs or family parties, but occasionally collect in large flocks."

Mr. Zarudny described its nest as somewhat lightly constructed of bents, lined with feathers and camel's hair, spherical or cylindrical in shape, with the entrance in the side or on the top according to the position. It is placed in the hole of a saxaul on the skirts of the woods not far from the ground, or in the fissures in the steep slopes of the sandhills, and he once found one close beside a Kite's nest.

The eggs, he says, resemble those of *Passer domesticus*, and are usually five or six, sometimes even seven, in number, and two broods are raised in the year.

Mr. Pleske separates *Passer stoliczkæ* specifically from *Passer ammodendri*, and says (Bull. Ac. Imp. Sci. de St. Pétersbourg, tome xiii. p. 282) that *P. stoliczkæ* is duller and *P. ammodendri* greyer in tone of colour, and that *P. ammodendri* is distinctly striped on the rump, whereas in *P. stoliczkæ* these striations are absent.

In the series I have examined all the specimens but two from Turkestan have the striations absent like those sent to me by Mr. Pleske as *Passer stoliczkæ*, and in the specimen from Tedgend, Transcaspia, which is in full spring plumage, the rump is not striated. The two specimens above referred to are males, specimens *c* and *e* in the British Museum, and were obtained in Turkestan by Dr. Severtzoff's collectors in April, the same month as the male from Tedgend above described. They have the black on the head and throat very pure, the stripes on the upper parts are very clearly defined, and the rump and upper tail-coverts are very distinctly striped. It appears to me that *Passer stoliczkæ* cannot be recognized as a valid species. I have not been able to examine a specimen of *Passer timidus*, which, so far as I can judge from the description, cannot be separated from the present species; and Dr. Sharpe also says (Cat. B. Brit. Mus. xii. p. 339) that he has examined a pair of specimens which appeared to him "to be scarcely separable from *Passer ammodendri*."

Although Dr. Severtzoff did not actually publish his 'Fauna of Turkestan' until 1873, yet it was written and, I believe, printed in 1870, and specimens of the new species were distributed by him in that year labelled with the names he had given. Hence the present species was exhibited at a meeting of the Zoological Society by Mr. Dode in May 1871; and Mr. Gould published a figure and description of it in 1872, giving Severtzoff's name, to whom, though his description was not published until 1873, the credit of naming it is really due.

The specimens figured are the adult male and female above described, and are in my own collection. The shrub on which they are placed is the saxaul, from which the specific name of this Sparrow is derived.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Tedgend, Transcaspia, April 1st (*Dr. G. Radde*). *b*, ♂, *c*, ♀. October 23rd; *d*, ♂. October 27th; *e*, ♂. October 30th, Iany-Darja River (*Severtzoff*). *f*, *g*, *h*, ♂, *i*, ♀. Nija-Darja, E. Turkestan, February 1890 (*Pevtsoff*).

E Mus. Brit.

a, ♂. Bokhara; *b*. Turkestan, November 27th, 1866; *c*, ♂, *d*, ♀. Ili River, Ferghana, April 18th; *e*, ♂. Ferghana, April 29th (*Severtzoff*). *f*, *g*, *h*, ♂, *i*, ♀. Kashgar, January and February (*Stoliczka*). *k*, *l*, *m*, ♂. Kashgar, December 1873 (*Col. Biddulph*). *n*, ♀. Maralbashi, January 1874 (*Stoliczka*). *o*, ♂. Khoten (*Dr. Lansdell*).



SNOW FINCH.
MONTIFRINGILLA NIVALIS.
EASTERN SNOW FINCH.
MONTIFRINGILLA ALPICOLA.

Mintern Bros. imp.

MONTIFRINGILLA ALPICOLA.

(EASTERN SNOW-FINCH.)

Passer alpicola, Pall. Zoogr. Ross.-As. ii. p. 20 (1811).

Fringilla nivalis, Nordm. in Démidoff's Voy. Russ. Mérid. p. 187 (1840, nec Linn.).

Montifringilla leucura, Bp. Comp. Rend. xli. p. 657 (1855).

Montifringilla nivalis, Horsf. & Moore, Cat. B. E. Ind. Co. Mus. ii. p. 491 (1856, nec Linn.).

Fringilla (*Montifringilla*) *alpicola* (Pall.), Gray, Hand-l. of B. ii. p. 85. no. 7252 (1870).

Fringilla nivalis, Severtzoff, Turk. Jevotnie, p. 64 (1873, nec Linn.).

Montifringilla fringilloides, Dresser, Ibis, 1875, p. 242 (nec Boie).

Montifringilla nivalis, Dresser, B. of Eur. iii. p. 617 (1876, partim).

Montifringilla alpicola (Pall.), Blanf. E. Persia, ii. p. 248 (1876).

Plectrofringilla apicola (Pall.), Bogd. Ptitsui Kavk. p. 67 (1879).

Oreospiza alpicola (Pall.), Michailoffsky, in MS., fide Bogd. ut suprâ (1879).

Gornyi Wjurok, Russian.

Figura unica.

Radde, Orn. Caucas. pl. viii.

♂ *ad. pil. æst. M. nivali* similis, sed rostro longiore et graciliore, pileo et nuchâ fusco-cinereis nec cano-cinereis facilè distinguendus.

Adult Male in summer (Erzerroom). Resembles *M. nivalis*, but has a rather longer and more slender bill, and the crown and nape instead of being ashy grey are brownish grey : bill and legs black ; iris brown. Total length about 7 inches, culmen 0·6, wing 4·5, tail 2·9, tarsus 0·95.

The female does not differ from the male in plumage. In the winter the black on the throat is obscured by the white edges to the feathers, and the bill instead of being black is brown, the lower mandible being dull yellow, darker at the tip, whereas in *M. nivalis* the whole bill is yellow with a dark tip.

WHEN, in 1876, I wrote the article on *Montifringilla nivalis* in the 'Birds of Europe' I was inclined, owing to lack of material, to consider the present as a doubtful species, and united it with *M. nivalis* ; but since then I have had an opportunity of examining a series of specimens, and have convinced myself that the eastern and western forms are specifically separable, the eastern form having the crown and nape dull brown instead of ashy grey, with a somewhat larger bill, which is stated to be black and not yellow in the winter.

The present species, which is the eastern form, inhabits elevated mountain-ranges of the Caucasus, Persia, Afghanistan, and Turkestan, as far east as the Bei-schan range. Dr. Radde says (Orn. Cauc. p. 171) that in the Caucasus it inhabits the higher portions of the mountains, being seldom found at any season below the boundary of tree-growth, and never, even during the severest winters, descends into the valleys. In the treeless High Armenia it descends lower than

in the Great Caucasus, for at Achalkalaki and Alexandropol it winters at an altitude of 5000 feet. In the Great Caucasus Radde met with it in November and December at Gudaaur, on the Kreuzberg, and as far as the station Kasbek; on the range southwards to Mleti and northwards to Lars it was much rarer in the winter and is not found there in the summer. On ascending the Sawalan he observed it above 10,000 feet altitude; and early in November 1879, near the village of Slawjanka, on the road to Kedabeg, he met with it in company with Shore-Larks at an altitude of about 4500 feet.

In Persia, according to Blanford (E. Persia, ii. p. 248), it is a "permanent inhabitant of the Elburz. The specimens obtained were shot in the snow by a collector whom Major St. John sent into the mountains in February. In summer it keeps to a considerable elevation. De Filippi found it at the base of Demavend, and I saw one flock, near the crest of the Elburz, on the road from the Lura Valley to Anán, at an elevation of between 9000 and 10,000 feet above the sea. The birds were on very steep rocky ground, and I shot one, which rolled down some precipitous rocks, and despite a long search, and much climbing on difficult ground, I was unable to find it." According to Horsfield and Moore (Cat. ii. p. 491), Griffith obtained it in Afghanistan, near Gurdan Dewar, on the Helmund, at an elevation of 11,500 feet; and Dr. Sharpe states (2nd Yark. Miss. p. 31) that specimens were sent from Kaskasu, and that Dr. Stoliczka observed it on the Turgat Pass, north of Chakmak.

In Turkestan it is, according to Severtzoff, resident, and appears to be common in suitable localities, and many were obtained by the brothers Grum-Grzimalo in the mountains of Bei-schan (Schin-schin-scha and Ssa-tschinsa) between the 17th and 20th of February.

In habits and mode of nidification the present species does not appear to differ from its western congener *Montifringilla nivalis*.

According to Dr. Radde it frequents the rocky treeless and bare portions of the mountains, and is never seen in the wooded districts or the valleys. It is usually found in small flocks of six to ten individuals, and is extremely tame and even phlegmatic. It breeds numerously in the clefts of the rocks near the post-station of Kobi, and consorts with Sparrows, *Accentor alpinus*, *Linota cannabina*, and Rock-Thrushes. All do not breed, as in passing the Kreuzberg small parties were seen during May and June.

I have not been able to procure the nest and eggs of this Snow-Finch, which doubtless resemble those of *Montifringilla nivalis*.

The specimen figured is the male in breeding-dress above described, and is in my own collection; and I have likewise figured on the same Plate, for comparison, a male of *Montifringilla nivalis*, also in summer plumage.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Erzeroum (*Zohrab*). *b*, ♂. February 9th; *c*, ♂. August; *d*, ♀. November, Turkestan (*Severtzoff*). *e*, ♀. Tochta-chou, E. Turkestan, June 1889 (*Pevtsoff*). *f*, ♂, *g*, ♀. Schin-schin-scha, February 18th, 1890 (*Grum-Grzimalo*). *h*, ♂. Kobi, Caucasus, December 1894; *i*, ♀. Gudaaur, Caucasus, December 1894 (*Dr. G. Radde*).



J. S. Zentgraf del.

Mintern Bros. imp.

FALMAI CHAFFINCH.
FRINGILLA PALMERI.

FRINGILLA PALMÆ

(PALMAN CHAFFINCH.)

Fringilla palmæ, Tristram, Ann. & Mag. Nat. Hist. ser. 6, iii. p. 489 (June 1889).

Fringilla cærulescens, Koenig, Journ. f. Orn. 1889, p. 183.

Figuræ notabiles.

Meade-Waldo, Ibis, 1890, pl. iii.; Koenig, J. f. O. 1890, tab. vii.

♂ *ad.* suprà saturatè plumbeo-cæruleus, nec viridi notatus, uropygio concolore: corpore subtùs, alis et caudâ sicut in *Fr. tintillone* picturatis, sed abdomine albo nec cervino.

♀ *ad.* *Fringillæ tintilloni* similis, sed suprà pallidior et sordidior, et abdomine albo nec cervino-albo distinguenda.

Adult Male (Palma, June 15th). Differs from *Fringilla tintillon* in having the upper parts uniform plumbeous, there being no green on the back or rump, and the abdomen is pure white, not pale ochreous buff. Total length about 7 inches, culmen 0·65, wing 3·55, tail 3·15, tarsus 0·95.

Adult Female (Palma, April 14th). Resembles *Fr. tintillon*, but has the upper parts somewhat duller and lighter, and the abdomen is pure white and not buffy white.

THE present species is an insular form, being found only on the island of Palma, one of the Canary group, where it appears to be tolerably common.

Both Dr. Koenig and Canon Tristram claim to have first discovered this Chaffinch, and both described it in the same year. It is not for me to decide to whom the credit of its discovery is due; but there is no doubt that Canon Tristram's description is the one that was first published, and his name will therefore stand, it having the priority by several months, and that given by Dr. Koenig will thus sink into a synonym.

Dr. Koenig says (J. f. O. 1890, p. 481) that this bird only inhabits the laurel-groves, and he never met with it in the chestnut-woods. He did not visit the pine-woods, and was therefore unable to say whether it occurs there. Its call-note, he says, differs considerably from that of the Teneriffe Chaffinch, and is best described by its Palman name *chiri-chiri*, *chiri-chiri*. Its song also appeared to him to vary from that of the Teneriffe bird. Mr. Meade-Waldo writes respecting this bird (Ibis, 1889, p. 510) as follows:—"The first day, besides solving the Pigeon question, we procured a very interesting form of Chaffinch. Canon Tristram shot the first two examples, and I soon afterwards shot two more. They differed from *F. tintillon* in the green on the rump being entirely wanting, the blue slate-colour extending over the whole of the back and being of a slightly lighter shade. The lower breast and abdomen, instead of being buff, is pure white, and the green on the wing-coverts is wanting. This bird, of which we obtained some twenty

specimens, was very common and more generally distributed than *F. tintillon*, being found from about 1500 feet right through the chestnut-woods, laurel-woods, and into the pine-forests. I could distinguish a difference in its call-note and also in the song of the male, but it is very difficult to put in writing. *F. tintillon* says *chēē-wut chee-weet*, the Palma bird *che-wēēt che-wit*. I wrote this down at the time, so I think it is right. The song is decidedly different, but I cannot attempt to put it into words. The female of this Chaffinch is much lighter coloured, with much less green on the back than *F. tintillon*."

In general habits and mode of nidification the Palman Chaffinch, as may be supposed, does not differ from *Fringilla tintillon*. I have recently received two clutches of its eggs, together with one nest; the latter closely resembles those of *F. tintillon* from Teneriffe, and the eggs are also undistinguishable from the paler varieties of the eggs of that species.

When, in 1873, I wrote the article in the 'Birds of Europe' on *Fringilla tintillon* I united the forms of Chaffinch which inhabit the Canaries, Madeira, and the Azores, believing them to be specifically inseparable; but subsequent researches and the examination of a larger series of specimens have shown me that, though closely allied, they can be divided, at least subspecifically, into three forms, not counting *Fringilla palmæ*, which, differing more than any of these three forms, may well be treated as a distinct species, though future research may show that it may also differ only subspecifically. The first of these three forms, which I prefer to call *Fringilla tintillon*, var. *canariensis*, inhabits the islands of Teneriffe, Grand Canary, and Gomera. It has the upper parts, excepting the rump, dark slate-blue, the crown blackish blue, showing no distinct frontal line, the rump and upper tail-coverts apple-green, and the underparts buffy fawn. The second form, *Fringilla tintillon*, var. *moreleti*, which inhabits the Azores, has the upper parts pale slate-blue, the crown slightly darker, and has a tolerably broad blackish-blue frontal line; the green instead of being confined to the rump and upper tail-coverts extends over the back, and the underparts are coloured as in the Teneriffe bird. There is, however, in the British Museum a specimen of *Fringilla tintillon*, var. *canariensis*, from Orotava, which is intermediate, having the back as well as the rump green, and resembles the Azorean form, except that the crown is somewhat darker in tinge. The third form, *Fringilla tintillon*, var. *maderensis*, which inhabits Madeira, exactly resembles the Azorean form, except that the underparts are not so clear fawn-coloured, but have a tinge of pink; but in some the difference is so slight that it can only be detected in a very good light, and this last form appears to me to be the one least deserving of distinction.

In habits and nidification all three forms agree closely, and they are at best but forms of the same species somewhat differentiated by isolation, *Fringilla palmæ* being another form which has differentiated sufficiently to be entitled to specific rank. But Mr. Meade-Waldo states (Ibis, 1890, p. 434) that the Chaffinch of Hierro is somewhat intermediate between *Fringilla palmæ* and the Chaffinch of Teneriffe, having a trace of green on the rump, and the white on the underparts is not quite so pure in tinge as in *F. palmæ*; and I am indebted to this gentleman for the loan of three specimens from Hierro which clearly show the above-mentioned characters, and I therefore hesitate to unite the Hierran bird with *Fringilla palmæ*, which appears to be confined to the island of Palma, where it was found by Messrs. Meade-Waldo and Tristram when they visited that island in 1889.

The specimens figured and described are the adult male and female in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Palma, June 15th, 1889 (*R. Gomez*). *b*, ♀ *ad.* Santa Cruz, Palma, April 14th, 1889 (*Meade-Waldo*).

E Mus. H. B. Tristram.

a-f, ♂, *g*, ♀. Palma, April 1889 (*H. B. T.*).



DESERT FINCH.
ERYTHROSPIZA OBSOLETA.

Illustrated by J. J. Audubon

BUCANETES OBSOLETUS.

(DESERT-FINCH.)

Fringilla obsoleta, Licht. in Eversm. Reis. Buchara, p. 132 (1823).

Carpodacus obsoleta (Licht.), Gray, Gen. of B. ii. p. 384 (1844).

Erythrospiza obsoleta (Licht.), Bp. & Schl. Monogr. Lox. p. 28 (1850).

Bucanetes obsoletus (Licht.), Cab. & Heine, Mus. Hein. i. p. 164, footnote (1850).

Erythrospiza obsoleta (Licht.), De Fil. Archiv. Zool. Genova, ii. p. 384 (1863).

Carpodacus (Erythrospiza) obsoletus (Licht.), Gray, Hand-l. of B. ii. p. 102 (1870).

Rhodospiza obsoleta (Licht.), Sharpe, Cat. B. Brit. Mus. xii. p. 282 (1888).

Timochuk, Turki.

Figuræ notabiles.

Bonap. & Schlegel, Monogr. Lox. pl. xxxii.; Blanford, E. Persia, ii. pl. xvii.; Gould, B. of Asia, v. pl. xxix.

♂ *ad.* suprâ pallidè arenaceo-fuscus, uropygio pallidiore et supracaudalibus fulvido tinctis: remigibus nigricantibus conspicuè albo marginatis: secundariis ad basin et tectricibus alarum conspicuè rosaceo-rubro marginatis: rectricibus nigricantibus, mediis conspicuè et reliquis angustiore albo marginatis: loris et lineâ ad basin rostri nigris: corpore subtùs dorso concolore sed pallidiore, abdomine medio fere albo: rostro nigro: pedibus fusco-carneis: iride fuscâ.

♀ *ad.* mari similis, sed pallidior, alis minus rosaceo tinctis: rostro nigro-fusco.

Adult Male (Tschinar, March 4th). Upper parts uniform pale sandy brown; rump rather paler, and the upper tail-coverts darker and tinged with rufous; quills black, all the feathers broadly margined with white, the secondaries and wing-coverts broadly margined with bright rose; tail-feathers black, the middle ones broadly and the outer ones more narrowly margined with white; lores and a narrow space at the base of the bill, together with a narrow frontal band, black; underparts paler than the upper parts, the middle of the abdomen nearly white: bill black; legs fleshy brown; iris brown. Total length about 5·5 inches, culmen 0·5, wing 3·5, tail 2·45, tarsus 0·7.

The female in spring plumage differs from the male merely in being paler in general tone of colour, and more faintly marked with rose-colour on the wings, the bill being dark blackish horn, nearly as black as in the male. The autumnal plumage differs but little from that above described, being a trifle greyer in tone of colour, the white margins to the wing and tail-feathers are tinged with buff, and the bill is yellowish instead of being blackish. According to Dr. Radde, the old female has the bill dark horn, nearly as black as in the male, and never so light in colour as is shown in Mr. Blanford's plate.

THE range of this beautiful Finch extends from Syria and Transcaspia, Persia, Afghanistan, and Turkestan to the northern bend of the Hoang-ho River in Chinese Mongolia, but it does not appear to range into China proper.

In Transcaspia it is, according to Zarudny (Bull. Soc. Mosc. iii. p. 797), "a common species

in the summer in the numerous gardens in the eastern part of the Ahal oasis, as also along the course of the Douchak and in the Pindé and Merv oases. From this latter it extends commonly to the sand-hills bordering the Alikhanow canal. I am puzzled to state which are the favourite haunts of this bird, for, on the one hand, I have often found it nesting in the desert-plains which reminded me of those in which are the ruins of Old Merv, and, on the other hand, I met with it in rich fertile places, in gardens, woods, bushes, &c. Anyhow, one can say that in summer it affects the plains or a hillocky, sandy, dry place, clayey or stony, scantily covered with grass, with only here and there a few bushes or solitary low trees. The vicinity of a watercourse, lake, river, or ditch is a necessity. On the 17th June I saw flocks of about seventy fully-fledged young birds perfectly strong on the wing." Messrs. Radde and Walter also speak of it (Vög. Transcasp. p. 26) as being one of the commonest Finches in Transcaspia, where it is resident and breeds twice in the year. It frequents gardens and the bush and reed-covered banks of brooks, the tamarisk-patches in the desert, and was met with east of the Murghab in the desolate *Ferula* deserts on the Afghan frontier. Dr. Aitchison met with it on the Afghan Delimitation Commission Expedition at Khusan-Hari-rud in April; Col. Swinhoe (*Ibis*, 1882, p. 114) found it common throughout the year in the gardens near Kandahar; and Sir Oliver St. John remarks (*Ibis*, 1889, p. 172) that it is common in winter at Kandahar, and is often netted and brought in for sale. He met with it during the summer in Persian localities nearly as hot as Kandahar, though somewhat higher in elevation, and it may breed there.

In Persia it appears to be resident. De Filippi found it breeding in gardens at Kazvin; Blanford obtained one at Niriz in June; and Sir O. St. John found it at Shiraz from June to December.

Col. Biddulph first met with it at Sanju in November, and on the march thence to Yarkand. During the winter it was not obtained in Kashghar, but it was very common throughout the plains of Yarkand and right up to the foot of the hills during May and June. Dr. Scully, however, speaks of it as "numerous in the plains of Kashgharia, where it is a permanent resident. This species was common at Kashghar in winter, where it frequented hedges, often in company with the Sparrow (*Passer montanus*). Near Yarkand in summer it was found about trees, in orchards, and in clumps of poplars. It has a very sweet song, and feeds entirely on seeds."

According to Prof. Menzbier (*Ibis*, 1885, p. 353), Messrs. Majev and Wilkins found it on the Upper Tarim, Kashgharia, near the Taushkan-Darja, and at Ush-turfan. Severtzoff met with it in Turkestan, where it appears to be common and resident; and Col. Prjevalsky says (*Orn. Misc.* ii. p. 303) that he met with this Finch "only in the northern bend of the Hoang-ho, the Muni-ul and Hara-narin-ul Mountains," and that the Hoang-ho or, rather, the Muni-ul Mountains form the northern boundary of its range, which probably does not extend eastward beyond Ordos, as it has not been recorded from China proper. He does not know for certain, but believes it most probable that it is resident in Mongolia.

As above stated, this Rose-Finch frequents not only the desert but also cultivated places, and is generally to be met with near streams and brooks. It breeds twice in the year, and Mr. Zarudny says (*l. c.*) that he has taken nests as late as the first week in July. The nest is, he says, placed on the top of a bush or on the side branches of an isolated shrub, always in full

view, and rarely more than about a fathom above the ground. Zarudny remarks that the nests he found on the plains differed from those found in the mountains during his former journey in Transcaspia, and he describes them as being elegant in construction, the outer part consisting of fine twigs of all sorts of plants, and somewhat slightly, though strongly, fastened together, and the inner lining is of soft cotton or wool. The eggs vary in number from three to six, and are pale bluish white, seldom real blue, slightly marked with black or reddish-black dots, sometimes larger and forming spots, and usually more numerous at the larger end of the egg; sometimes they are roundish, and sometimes elongated. Both male and female incubate, and the latter sits so close that she may be caught on the nest with the hand. These birds are sociable, and seldom nest far from others of the same species. Dr. Walter took a nest containing seven eggs on the 16th April, which, he says, was more carefully constructed than the nests of *Coccothraustes vulgaris* and *Ligurinus chloris*, but not so neat as those of the Chaffinch. It was placed in an old mulberry-tree, in a deserted Persian garden, close to the stem of the tree, and about four feet from the ground. According to Mr. Scully, it breeds in May, the nest being usually placed in high trees, often in the poplar (*Populus balsamifera*). A nest obtained by him on the 13th of June contained, he writes (Stray Feathers, 1876, p. 168), five eggs, in which the embryo was found to be formed. The nest is of a broad oval shape, 5·75 inches in length by 4 in breadth; thickness of side wall about 0·5. It is made up of twigs and fibres. The egg-cavity is oval, 3·5 by 2·5 inches, lined with fine vegetable fibres and some horse-hair; depth of cavity 1·25. The eggs are moderate ovals, smaller at one end, and are fairly glossy. The ground-colour is pale bluish grey, with fine purplish-brown spots and streaks, sparingly scattered at the small end, but accumulating to form nearly a cap or zone at the large end. In size they vary from 0·76 to 0·78 inch in length, and from 0·57 to 0·58 in breadth: the average of four eggs is 0·770 by 0·575.

I am indebted to Mr. Scully for the nest and eggs of this bird, which agree closely with the above description.

The song of this Finch is said to be sweet and melodious, and, according to Zarudny, its call-note resembles the syllables *fink*, *fink*, or *pink*, *pink*, not unlike the call of the Bullfinch, but fainter and softer. Dr. Radde says that it was in full song from the middle of February to the end of May.

Both Mr. Scully and Mr. Zarudny state that it feeds exclusively on seeds, and the latter remarks that its staple food in Transcaspia consists of the seeds of the alchagi and saxaul.

The specimens figured are the adult male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Kelch Tschinar, Transcaspia, March 4th; *b*, ♀. Perewallnaja, Transcaspia, April 22nd, 1886 (Dr. G. Radde). *c*, ♂. Kandahar, January 23rd, 1881; *d*, ♂. Abadeh, N. of Shiraz, Persia, July 1870 (Sir O. St. John). *e*, ♂. Rany-Darja, October 17th (Severtzoff). *f*, ♂, *g*, ♀. Guma, E. Turkestan, September 1889 (Pevtsoff).



J. G. Keulemans del et lith.

Mintern Bros. imp.

MONGOLIAN DESERT FINCH.
BUCANETES MONGOLICUS.

BUCANETES MONGOLICUS.

(MONGOLIAN DESERT-FINCH.)

Carpodacus mongolicus, Swinhoe, P. Z. S. 1870, p. 447.

“*Pyrrhula incarnata*, Severtzoff,” Dode, P. Z. S. 1871, p. 480.

Erythrospiza mongolica (Swinh.), David, Nouv. Archiv. vii., Bull. p. 10 (1871).

Erythrospiza incarnata, Severtzoff, Turk. Jevotnie, pp. 64, 117 (1873).

Bucanetes mongolicus (Swinh.), Menzbier, Ibis, 1885, p. 353.

Tagh-Timochuk, Turki; *Che-chao*, *Sseu-cheung*, Chinese.

Figureæ notabiles.

Gould, B. of Asia, v. pl. xxx.; David & Oustalet, Ois. de la Chine, pl. xcvii.

♂ *ad.* suprâ pallidè fuscus, dorsi plumis mediis saturiore notatis: uropygio et supracaudalibus rosaceis: remigibus saturatè fuscis, extûs albido marginatis et rosaceo lavatis, secundariis magis conspicuè marginatis et albo apicatis, tectricibus minoribus dorso concoloribus, majoribus et medianis conspicuè albo et rosaceo marginatis: caudâ saturatè fuscâ, rectricibus cervino-albido marginatis: corpore subtûs cervino-albido rosaceo lavato: rostro fusco-flavido: pedibus pallidè fuscis: iride fuscâ.

♀ *ad.* coloribus sordidioribus et minus rosaceo lavato.

Adult Male (Sartchy, May 24th). Upper parts pale hair-brown, the middle of the dorsal feathers darker; rump and upper tail-coverts rose-red; quills dark brown, externally margined with white, washed with rose; secondaries more broadly margined and broadly tipped with white; larger and median wing-coverts broadly margined with buffy white and rose-red; tail dark brown, the feathers margined with buffy white; underparts generally buffy white, washed with rose-red: bill yellowish brown; legs light brown; iris dark brown. Total length about 5·5 inches, culmen 0·45, wing 3·5, tail 2·25, tarsus 0·7.

Adult Female (E. Turkestan, June). Differs from the male merely in being rather duller in colour and being less rose-tinted.

In the autumn dress the light margins to the wing- and tail-feathers are broader, the back is rather paler and more uniform in colour, the dark centres to the feathers being less apparent, and the underparts are less tinged with rose-colour and are whiter. According to Severtzoff, in the full spring plumage all the rose-coloured feathers become blood-red, and the whitish has changed to a snowy-white colour, except on the stomach and under tail-feathers, which are protected from the sun. The rose-colour is brightest on the wings, paler on the throat, breast, superciliary region, flanks, and rump, where only the margins of the feathers are of that colour. The dark lines on the crown and back become darker in the spring, and the grey margins to the feathers are lost.

The young male in the first autumn resembles the adult female, but has no white margins to the larger wing-coverts, which are brownish red, and the median coverts have very narrow white margins, which do not form a white spot when the wings are closed.

The young female in the first autumn has scarcely any red in the plumage, this colour being replaced by light grey, which is faintly washed with rose on the breast.

THE range of the present species extends from Transcaspia eastward through Afghanistan, Turkestan, and the Himalayas to North-western China. Neither Dr. Radde nor Mr. Zarudny include it in their lists of the birds inhabiting Transcaspia; but Mr. Pleske writes to me that the latter explorer found it very common in that district in 1893, and obtained many specimens. Sir Oliver St. John states (*Ibis*, 1889, p. 171) that two specimens were sent from Chamam, in Afghanistan, which were obtained there in April 1880.

In Gilgit it is, Col. Biddulph writes (*Str. Feath.* ix. p. 347), "a constant resident, but seldom comes below 6000 feet, except in severe weather. I found it at about 10,000 feet in the Astor Valley in June, when it was no doubt breeding. I have seldom seen it except in large flocks of twenty or thirty. On the 29th April I shot seven out of a flock, which all proved to be males."

According to Prof. Menzbier, Mr. Majev obtained specimens at Kyzil-bulak and at Egin, on the confines of the desert on the Upper Tarim River, in Kashgharia.

Mr. Scully (*Stray Feath.* iv. p. 169) says that it is "only a winter visitant to Eastern Turkestan, and is even then not common; it is said to migrate eastwards towards China in the spring. Near Yarkand it frequents a sort of desert-bush called *Kamghak*, on the seeds of which it appears to feed. It is rather a favourite cage-bird with the Yarkandis on account of its sweet song."

Col. Biddulph writes (2nd Yark. Miss. p. 37) that he "first obtained one or two specimens of this species at Tanksi (13,000 feet) in September. Again in the Karakash Valley in October several specimens were procured on our arrival at Sanju in the beginning of November; they were settling in immense flocks in short grass in the morning. A few specimens were obtained during the winter in Kashghar, and in Wakhan in April we found it very common. They are chiefly ground-birds." Dr. Stoliczka also found it common near Sanju in October. Dr. Severtzoff states (*Turk. Jevotnie*, p. 117) that in Turkestan it is "a resident, and is found after the breeding-season in flocks of from 50 to 100 individuals. It was killed at the end of September on the Issik-kul, in August and October on the Upper Narin, at an elevation of from 9000 to 10,000 feet; in October and in the winter, however, it is not found higher than 2000 feet; in the steppes, everywhere in summer as well as in autumn and winter, we found this bird only near stony or clayey places. In autumn and spring it moves about very much, feeding on small seeds, and avoids the woods and even the bushes. It runs very fast, although it has such short legs; and it flies swiftly and well."

Prjevalsky met with this species in Halka, Ordos, and Ala-shan, and, though it was not observed in Kan-su, it inhabits Koko-nor and Tsaidam, in which latter place he frequently observed it in November on the clayey plains. In the localities he explored, the Hurka Mountains form, he remarks, the northern boundary of its range.

The brothers Grum-Grzmailo obtained it in the Eastern Tian-schan (Kitschik-ulan-ussu), in the Njan-schan (Babo-cho), and in the mountains around Ssi-ning (Tschan-chu); and Père Armand David records it (*Ois. de la Chine*, p. 350) as "common at all seasons in the bare mountains in the N.W. of China, especially in the districts bordering Mongolia."

In general habits this Finch resembles its congener *Bucanetes obsoletus*, but inhabits the sterile mountains, whereas that species frequents the plains; and Mr. Scully remarks that the

Yarkandis call it *Tagh-Timochuk*, or the Mountain Timochuk, "Timochuk" being the Turki name for *B. obsoletus*.

It frequents, Père David says, in large flocks the sandy plateaux in arid, sun-dried places, and feeds on all sorts of small seeds which it picks up in the sand. It appears in June, and takes up its abode in the high rocks, where it makes its nest in bushes or even in natural cavities. When the female is incubating the male rises in the air, emitting its song *do-mi-sol-mi*, uttered softly, quite different from its ordinary notes, which are very pleasing. It is a very tame bird, and will allow itself to be approached without interrupting its song. Prjevalsky states that its favourite localities are high clayey hills, especially if they abound with ravines. From here they visit stony localities in some of the mountain plains and near saline lakes, where they feed on the seeds of saline plants. He remarks that its note, uttered when on the wing, consists of a few short syllables resembling *tuck tuck tuck*. The only information I find on record respecting its nidification is that furnished by Prjevalsky, who found in May 1872 a nest in the Harin-narin-ul, which he describes (Orn. Misc. ii. p. 303) as being "constructed in the thick branches of a young elm tree, not above a fathom from the ground. The foundation consisted of dry branches of a mugwort, and the lining of a thick layer of goat's hair. The eggs (three in number) were quite fresh; they are of an elongated conical shape, of a whitish-green colour, marked on the large end with a few blackish spots and lines, and measure 0".82 to 0".86 by 0".54 to 0".58. The female was already sitting very close, so that I almost caught her on the nest with my hands. The male was also near at the time; and when the female, after leaving the nest, joined the male, they commenced caressing each other, just like Pigeons."

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Sartchy, May 24th, 1866 (*Abbé Armand David*). *b*, ♂. Between Chimkend and Tashkend, October 18th, 1864 (*Severtzoff*). *c*, ♂. Ortyu-dagh, October 1890; *d*, ♀. Tuschkan-Darja, June 1889 (*Pevtzoff*).

E Mus. H. B. Tristram.

a, ♀. Kokand (*Severtzoff*).



of the plumage not exact.

CASSIN'S BULFINCH
PYRRHULA CASSINI.

Minton Bros. imp.

PYRRHULA CASSINI.

(CASSIN'S BULLFINCH.)

Pyrrhula coccinea, var. *cassini*, Baird, Trans. Chic. Acad. i. p. 316 (1869).

Pyrrhula cassini, Baird, Tristram, Ibis, 1871, p. 231.

Pyrrhula cineracea, Cabanis, J. für Orn. 1872, p. 316.

Pyrrhula nepalensis (nec Hodgs.), Severtzoff, Turk. Jevotn. p. 64 (1873).

Pyrrhula vulgaris (nec Temm.), Severtzoff, ut suprâ (1873).

Pyrrhula cineracea pallida, Seebohm, Ibis, 1887, p. 101.

Figuræ notabiles.

Baird, Trans. Chic. Acad. i. pl. xxix.; Dybowski, J. f. Orn. 1874, pl. i.; Baird, Brew., & Ridgw. Hist. N.-Am. B. i. pl. xxiii. fig. 11; Gould, B. of Asia, v. pl. xl.; Turner, Nat. Hist. Alaska, Birds, pl. vii.

♂ *ad.* corpore suprâ cærulescenti-cinereo, uropygio albo: pileo, genis et mento nitidè nigris: corpore subtùs cærulescenti-cinereo sed conspicuè pallidiore, gulâ, regione paroticâ et hypochondriis pallidioribus: alis, caudâ et supracaudalibus nitidè nigris: tectricibus alarum minoribus dorso concoloribus, majoribus nigris cinereo terminatis, crisso et subcaudalibus albis: rostro nigro: iride fuscâ: pedibus saturatè fuscis.

♀ *ad.* mari similis, sed gulâ, gutture et corpore subtùs fusco-cervino lavatis.

Adult Male (Onon, December 4th). Upper parts clear blue-grey, underparts pale ashy grey; rump, crissum, and under tail-coverts pure white; crown and nape, lores, and the whole space round the bill in front of the eye, together with the chin, deep glossy black; quills black, the outer web purplish black; lesser wing-coverts blue-grey, the larger coverts glossy black, with the terminal portion blue-grey; tail black, the central rectrices and upper tail-coverts purplish black, the remaining tail-feathers with the outer web glossy black or purplish black; cheeks and ear-coverts clearer and paler; flanks and centre of the abdomen rather paler than the rest of the underparts: bill black; iris dark brown; legs dark brown. Total length about 6 inches, culmen 0·45, wing 3·45, tail 2·80, tarsus 0·65.

Adult Female (Onon, January 17th). Differs from the male only in being rather less clear in tone of colour, and the underparts are brownish grey and not ashy grey.

THE range of this Bullfinch is very extensive, as it has been met with from the Ural Mountains through Siberia to Alaska, and southward to Turkestan and the Mongolian slopes of the Altai range.

According to Dr. Cabanis it has strayed as far west as St. Petersburg, as a specimen was obtained alive in the St. Petersburg market in February 1877 (J. f. O. 1877, p. 223).

Professor Menzbier informs me that examples of this Bullfinch are met with every winter

in the vicinity of Orenburg, and that during the winter of 1887–1888 they were quite numerous in that district. It does not appear to have been met with in Transcaspia; but Severtzoff records it from Vernoe in Turkestan and the Mongolian slopes of the Altai range. It is found across Siberia to the far eastern portion of that country.

According to Godlewski (Tacz. Faun. Orn. Sib. Orient. p. 684) this Bullfinch is “tolerably common in winter in the Southern Baikal, and in Dauria, where it is found chiefly in the forests, and feeds on the seeds of the birch and of *Rhododendron dahuricum*, and though often found on the skirts of the forests near the villages, yet it is never found, like the common Bullfinch, on the corn-stacks. Its presence is easily distinguishable from that of the common Bullfinch by its call-note, which is clear and fine, whereas that of the latter is harsh. It nests in the vicinity of the Southern Baikal, and is often seen in the breeding-season, when it inhabits the upper part of the conifer region. We never succeeded in finding the nest, in spite of all our endeavours to do so.”

Mr. Dörries (J. f. O. 1888, p. 81) obtained one on the island of Askold, where it is found in flocks of five to fifteen individuals throughout the year, except during the breeding-season, as, he says, it appears to go north to breed, to beyond the Amoor. Dr. Dybowski also obtained it on the Onon and at the mouth of the Ussuri.

As a straggler it has occurred once in the Nearctic Region, as the species was first described from a specimen obtained at Nulato, on the middle Yukon, on the 10th June, 1867, by Mr. W. H. Dall. Dr. L. Stejneger, who compared Prof. Baird's type of *P. cassini* with an undoubted specimen of *P. cineracea*, has shown that the two are most certainly specifically identical.

So far as I can ascertain, the nest and eggs of this Bullfinch are as yet unknown, but they will in all probability be found to resemble those of our European Bullfinch.

The specimens figured are the male and female above described, and are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Onon, Siberia, December 4th, 1872; *b*, ♀. Onon, January 17th, 1873 (*Dr. Dybowski*).

E Mus. Brit.

a, *b*, ♂, *c*, *d*, ♀. Onon River, January 1873 (*Dr. Dybowski*). *e*, ♂, *f*, ♀. Kultuk, Lake Baikal, March.

Genus URAGUS.

Loxia apud Pallas, Reis. Russ. Reichs, ii. Anhang, p. 711 (1771).

Pyrrhula, id. Zoogr. Ross.-As. ii. p. 10 (1811).

Corythus apud Gould, B. of Eur. iii. pl. ccv. (1837).

Uragus, Keyserling & Blasius, Wirbelth. Europa's, p. 158 (1840).

THE present group contains but three species—*Uragus sibiricus*, *Uragus sanguinolentus*, which inhabits Eastern Siberia, the Kurile Islands, Japan, and Manchuria, and *Uragus lepidus*, which inhabits China. They are allied to the Bullfinches and *Carpodaci*, and also to some extent to the Linnets, at least as far as their habits are concerned. They inhabit bush-covered places near rivers and on the mountain-slopes, and are good songsters. In their nesting-habits they appear to resemble the birds belonging to the genus *Carpodacus*, and their nests and eggs resemble those of *Carpodacus erythrinus*.

Uragus sibiricus, the type of the genus, has the bill short, stout, bulging at the sides, as high as broad at the base, the upper mandible longer than, and overhanging, the lower mandible; nostrils basal, hidden by stiff, curved feathers; wings rather short, the first quill very small and sharp, the fourth and fifth longest; tail long, slightly forked; tarsus and toes rather short, the former anteriorly scutellate; claws moderate, arched, acute; the plumage soft, the prevailing colour in the male rosy red.



J. B. Keulemans del. et lith.

SIBERIAN ROSE-FINCH.
URAGUS SIBIRICUS

Mintern Bros. imp.

URAGUS SIBIRICUS.

(SIBERIAN ROSE-FINCH.)

Loxia sibirica, Pallas, Reis. Russ. Reichs, ii. Anh. p. 711 (1771).

Siberian Grosbeak, Lath. Gen. Syn. ii. part i. p. 124 (1783).

Pyrrhula caudata, Pall. Zoogr. Ross.-As. ii. p. 10, tab. xxxvii. (1811).

Pyrrhula longicauda, Temm. Man. d'Orn. i. p. 340 (1820).

Corythus longicauda (Temm.), Gould, B. of Eur. iii. pl. ccv. (1837).

Corythus sibiricus (Pall.), Bonap. Comp. List, p. 38 (1838).

Pyrrhula (*Uragus*) *sibirica* (Pall.), Keys. & Blas. Wirbelth. Eur. p. xl (1840).

Uragus sibiricus (Pall.), Gray, Gen. of B. ii. p. 387 (1844).

Erythrothorax caudatus (Pall.), Brehm, Naumannia, 1855, p. 276.

Pyrrhula sibirica (Pall.), Borggr. Vogelf. Norddeutshl. p. 73 (1869).

Figuræ notabiles.

Gould, B. of Eur. pl. ccv.; Werner, Atlas, *Granivores*, pl. xxxv.; Bonap. & Schlegel, Monogr. Lox. pls. xxxiv., xxxv.; Gould, B. of Asia, v. pl. xxvii.

♂ *ad. ptil. hiem.* fronte lorisque intensè rubro-roseis: capite et collo argenteis roseo tinctis: dorso roseo-albido, plumis medio fuscis, uropygio et supracaudalibus rosaceis: alis nigricantibus, plumis conspicuè albo marginatis et tectricibus alarum conspicuè albo terminatis, tectricibus minoribus roseo tinctis: rectricibus mediis nigricantibus albido marginatis, externis ferè omnino albis: corpore subtùs rosaceo, abdomine imò albo-roseo lavato, subcaudalibus pallidè rosaceis: rostro corneo-fusco, mandibulâ pallidiore: pedibus rufescenti-cinereis: iride fuscâ.

♂ *ad. ptil. æst.* magis rosaceo-ruber, remigibus et tectricibus alarum minus albo marginatis.

♀ *ad.* capite et corpore suprâ fusco-cinereis, nigro-fusco striatis, sed uropygio et supracaudalibus nec striatis et roseo lavatis: corpore subtùs pallidè fusco-cinereo, abdomine ferè albo, gutture et pectore nigro-fusco striatis: hypochondriis indistinctè striatis et vix roseo tinctis: alis et caudâ sicut in mare coloratis, sed illis non roseo tinctis.

♂ *juv.* fœminæ similis, sed pallidior et cervino tincto, ubique magis distinctè striato: uropygio non striato et roseo tincto, supracaudalibus pallidè fuscis rosaceo tinctis: capitis lateribus indistinctè argenteo notatis: alis et caudâ sicut in adulto coloratis, sed rectricibus externis in medio fusco-nigro notatis.

Adult Male in winter (River Manas-Darja, December). Forehead and lores rich rosy red; the rest of the head and neck silvery white, tinged with rose; back rose-red, striped with dark brown, the feathers with silvery-white margins; rump and upper tail-coverts rosy red; wings blackish, all the quills broadly margined with white, these margins being much broader on the secondaries; wing-coverts blackish, broadly terminated with white, the least coverts tinged with rosy red; outer tail-feathers white, the

central ones blackish, margined with white; underparts generally rosy red, the lower abdomen white, tinged with rose; throat, neck, and sides of the head silvery white, tinged with rose, the feathers on the neck lanceolate; under wing-coverts white; under tail-coverts pale rosy red: bill horn-brown, the lower mandible paler; legs reddish grey; iris brown. Total length 6·75 inches, culmen 0·38, wing 3·1, tail 3·6, tarsus 0·65.

Adult Female (Tatascheff, January 3rd). Upper parts generally greyish brown, the feathers with a median blackish-brown stripe, except on the rump and upper tail-coverts, which are unstriped and washed with rose; wings and tail as in the male, but the former without any rose-red; underparts brownish ash; the throat and breast striated with blackish brown, the abdomen nearly white; flanks indistinctly striped and slightly tinged with rose.

Young Male (Siberia). Resembles the female, but is paler and somewhat buffy, and less grey in tone of colour, and is more distinctly striped on both the upper and underparts; rump more uniform and washed with rose; upper tail-coverts pale brown, tinged with rose; cheeks and ear-coverts showing a trace of the silvery markings of the adult male; centre of abdomen white; wings and tail as in the adult, but the outer feathers marked along the shaft with blackish brown.

Adult Male in spring (Kultuk, March 2nd). Differs from the male in winter dress in being of a deeper rose tinge, the feathers having shed the major portion of their light margins, and the white margins to the quills and wing-coverts are narrower.

THIS lovely Rose-Finch is more especially an inhabitant of the Siberian subregion, and is replaced in Japan and the Kurile Islands by *Uragus sanguinolentus*, a smaller and more richly coloured form. Its range extends from the Ural Mountains in the west to Eastern Siberia in the east, and in the south to Turkestan, Manchuria, and Northern China.

Professor Menzbier informs me that late in September, 1882, a flock of about fifteen individuals was observed in the neighbourhood of Orenburg, out of which a female was killed. In Siberia it is, according to Taczanowski (Faune Orn. Sib. Orient. p. 668), "common throughout the whole of Eastern Siberia and a great part of Western Siberia, occurring also in Northern China and Turkestan. The northern and eastern limits of its range in Eastern Siberia are not sufficiently well defined, though it is certainly not found in Kamtschatka, but there are no data relative to the west coast of the Sea of Ochotsk and the district around the mouth of the Ussuri."

Godlewski writes (*fide* Taczanowski) as follows:—"We found this species everywhere in the Irkutsk Government to the Sea of Japan, most common in the Southern Baikal and Dauria, and less numerous in other districts. It frequents the bushes on the river-banks and the southern slopes of the mountains which are covered with bushes. It is everywhere resident, though but few remain during the winter, the larger number migrating a little further to the south. On fine days during the month of March the male utters in a low tone a long and melodious song, which ceases when the birds are paired. When the bushes are covered with foliage, that is in June, they build their nests, which are placed in a bush one or two metres above the ground. The nest is easy to find, as the bird remains in the immediate vicinity and utters a low alarm-note, which may be expressed by the syllables *fit, fit, fit*. . . . The flight of this bird may be heard from afar owing to the quick strong flaps of its wings. In the middle of June they commence

incubation, and the female sits close, but if disturbed soon forsakes her eggs. The young after leaving the nest remain with their parents to the spring."

To this I may add that Mr. Kibort has sent specimens from Krasnojarsk: Dr. Theel obtained it at Yenesaïsk: von Schrenck records it from the Schilka, near the mouth of the Nertscha, and from the village of Mutatcha on the Argun: Dr. Radde from Lake Baikal, the central portion of the Ussuri, and the Bureja Mountains, and he observed flocks late in September at Irkutsk; it breeds, he adds, on the Bureja. Mr. Dörries says (J. f. O. 1888, p. 82) that he met with it in winter on the island of Askold, in the Suifun and Ussuri districts, but only singly. Late in February they appeared in considerable numbers in flocks of five to ten individuals.

In the southern portion of its range it does not appear to have been met with west of Turkestan, where, according to Dr. Severtzoff, it is found both in the winter and during the breeding-season. Mr. Pleske says that three examples were sent by the brothers Grum-Grzimailo, all three males in winter plumage, from Jandschi-che, Taschar (in the Chami district), and Dschan-tschinsa (in the Gutschin district). Prjevalsky only met with it in Mongolia, on the Gutschin Gourbou hills, where it was observed in pairs and small flocks. Père David states (Ois. de la Chine, p. 358) that he met with it on several occasions, in the winter, near Pekin, and killed an old female there on the 11th April, which tends to show that they do not all leave that province when the severe frosts are over.

I give above all that I find on record respecting the habits of this bird, which appear to assimilate closely with those of its congeners and with the Redpolls.

According to Pallas it feeds on seeds, chiefly those of *Artemisia integrifolia*, *glauca*, and *annua*, *Potentilla*, and of those of the family Compositæ, which abound in Siberia.

Dr. Taczanowski says that "the nest is placed in a fork close to the main stem of a bush or low tree, and is carefully and artistically constructed. The exterior of the nest resembles, to some extent, that of *Hypolais icterina*, and is occasionally as pale in coloration. It is constructed of sun-dried plant-stems, mixed and interwoven with fibres of nettles, hemp, and willows. Sometimes these fibres are largely used, more so than other materials. The interior is well lined with pine-leaves and bents, mixed with the fur of hares, roebucks, and with horse-hair &c., sometimes with feathers and down, with which it is, as a rule, finally lined. The eggs resemble those of *Carpodacus erythrinus*, but are rather smaller and of a less intense blue colour; the black spots are in general larger, the little dots much less numerous than the spots and are often totally absent; the markings are generally collected round the larger end and absent on the rest of the surface, or are only represented by a few tiny dots; but there are specimens, similar to those of the species above named, marked with a number of small spots forming a wreath round the base; the pale spots are only found in exceptional cases."

Mr. Dörries states that he found on the 13th of May full clutches of eggs of a rich blue colour, streaked and spotted with black. It affects, he says, districts covered with low bushes, where it breeds, the nest being placed only a few feet above the ground. He never found, he adds, two nests close together in the same locality.

Eggs in my collection, received from Dr. Dybowski, are dark blue, sparingly spotted, chiefly at the larger end, with black, and vary in size from .67 by .55 to .77 by .55 inch.

The specimens figured are an adult male and female in winter plumage, marked *c* and *d* in

my own collection, and are those above described. The adult male in spring plumage above described is in the British Museum, and the young male in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.*, *b*, ♂ *juv.* Siberia, September (*Dode*). *c*, ♀ *ad.* Tatascheff, January 3rd, 1881 (*Kibort*). *d*, *e*, ♂ *ad.* Manas Darja River, December 1890 (*Pevtzoff*).

E Mus. H. Seebohm.

a, ♀ *ad.* Krasnojarsk, October 25th, 1881 (*Kibort*).

E Mus. Brit.

a, ♂, *b*, ♀. Amoor Land (*Dr. Maack*). *c*, ♂, *d*, ♀. Eastern Siberia (*Verreaux*). *e*, ♂. Kultuk, March 2nd; *f*, ♂ *juv.* Krasnojarsk, December 7th, 1880 (*Kibort*). *g*, ♂ *ad.* Kobdo, Mongolia, November 1876 (*Gotanin*).



J. G. Keulemans del. et lith.

Mintern Bros. imp.

REDBANDED CROSSBILL.
LOXIA RUBRIFASCIATA.

LOXIA RUBRIFASCIATA.

(RED-BANDED CROSSBILL.)

Loxia curvirostra rubrifasciata, Bp. & Schleg. Monogr. Loxiens, p. 5 (1850).

"*Loxia rubrifasciata*, Brehm, in litt.," iid. ut suprâ.

Crucirostra rubrifasciata, L. Brehm, Naumannia, 1853, p. 194.

Crucirostra erythroptera, id. tom. cit. p. 199.

Loxia bifasciata, Sharpe, Cat. B. Brit. Mus. xii. p. 442 (1888, partim).

Rothbindige Kreuzschnabel, German.

Figuræ notabiles.

Bp. & Schlegel, Monogr. Lox. pl. v.; L. Brehm, Naumannia, 1853, pl. iii. figs. 13, 14 (heads only).

Ad. simillima L. curvirostræ, sed alarum fasciâ duplici, in ♂ rubicundâ et in ♀ cinereâ.

Adult Male (near Moscow, April 9th, 1893). Similar in plumage to red males of *Loxia curvirostra*, but, if anything, a trifle brighter in tone of colour; median and larger wing-coverts tipped with rosy white, forming two distinct bands across the wing; the two innermost secondaries also tipped with rosy white: beak, legs, and iris as in *Loxia curvirostra*. Total length about 5·5 inches, culmen 0·82, height of bill at base 0·45, width of lower mandible at base 0·4, wing 3·7, tail 2·25, tarsus 0·72.

Adult Female (*fide* L. Brehm). Resembles the female of *L. curvirostra*, having the upper parts greyish green; the head greenish yellow, greenish grey on the nape, everywhere indistinctly marked with dark spots; the rump pale golden yellow; underparts grey on the breast and flanks, washed with yellowish green, and marked with indistinct spots; under tail-coverts blackish grey with broad whitish margins; on the blackish-grey upper surface of the wings there are two somewhat indistinct greyish bands.

Young (*fide* L. Brehm). Upper parts blackish, the feathers with whitish and greenish-white margins; the dull blackish wing- and tail-feathers narrowly margined with greenish yellow; rump pale yellow with blackish stripes; underparts whitish, the breast greenish, striped with dull black; on the wings two distinct greyish-green bands.

THE present species is one that has puzzled me not a little, and I was for long doubtful as to whether it could be treated as distinct from *Loxia curvirostra*.

Dr. Ludwig Brehm was the first to describe it, and states (*l. c.*) that "in size, form, and colour it resembles *L. curvirostra*, but has bands on the wing which are small in the female, but strongly developed in the male, and in the fully adult male they are rose-coloured"; and he subdivides it again into two subspecies on account of size, the larger of which he calls *Crucirostra rubrifasciata*, and the smaller *Crucirostra erythroptera*. Dr. Sharpe (Cat. B. Brit.

Mus. xii. p. 442) gives *L. rubrifasciata* as a synonym of *L. bifasciata*, and remarks that "the so-called *Loxia rubrifasciata* of Brehm is probably only the present species in its finest plumage, when the white bands on the wings are tinted with red"; but this is clearly an error, for it has nothing to do with *L. bifasciata*, as is evident from Brehm's original description as above cited. Mr. Pleske, when in England some time ago, assured me that the present is a good species, as he had convinced himself by an examination of specimens, and he has kindly lent me the bird I have figured for examination and comparison. I have examined a considerable number of specimens of the Common Crossbill and its near allies from various localities, the former chiefly from Scandinavia, besides the large series in the British Museum, not one of which shows the slightest trace of a band on the wings. Mr. Meves, however, informed me some years ago that a specimen with two reddish-white bands on the wings, and which must have belonged to the present species, had been obtained near Stockholm in November 1858. On the whole, it seems to me highly probable that Mr. Pleske is justified in his view that the present form should be specifically separated from *Loxia curvirostra*, and I have therefore decided to figure it.

Brehm says that this Crossbill occurs in the forests near Renthendorf and in Thuringia, and at Oeftersten on the Harz, and adds that he obtained specimens at the latter locality in the spring of 1817, in August 1819, and in April 1847, and that Mr. Bonde, a forester, from whom he received a fine male, only obtained three specimens in the Thuringer Forest in twenty years.

Mr. Pleske informs me that it is occasionally met with in Western Russia; and, according to Mr. Deditius (J. f. O. 1885, p. 202), it is recorded by Mr. Eug. Büchner as being not uncommon, and probably breeds in the St. Petersburg Government. As yet it is difficult to define its range, but it probably inhabits Western Russia, and straggles from thence into Germany. So far as I can ascertain, nothing is known respecting its habits beyond the few notes on it as a cage-bird given by Brehm in 'Naumannia' (*l. c.*), where he remarks that its call-note resembles that of the Common Crossbill, but is easily distinguishable, though the difference is not easy to describe. Its song, however, is very different, being fuller, louder, and richer, and is much more varied. He adds that he has kept many Crossbills as cage-birds, but none could compare with the Red-banded Crossbill so far as song was concerned; and one in particular, a male a year old, caught near Renthendorf on the 6th March, 1847, proved an exceptionally good songster in confinement. He mentions that it became very tame, and knew him after only a few days of confinement.

The nest of this Crossbill does not appear to have been found and described; but Brehm writes (*l. c.*) that it probably nested near Renthendorf in 1844, and certainly in 1847. He could not find the nest, but caught the female on the 6th April; and as it was evidently breeding, he placed it in a large cage and covered the bottom with moss. The next morning he found that it had deposited an egg, which he describes as differing considerably from that of the Common Crossbill, being elongated oviform, rich bluish white, with a wreath of closely-placed light red and brown spots round the larger end. It was different, he remarks, from any other Crossbill egg he had ever seen.

I do not possess a specimen of this rare Crossbill, nor is there one in the British Museum; and the bird figured and above described is the one for the loan of which I am indebted to Mr. Theod. Pleske, of St. Petersburg.



J. G. Keulemans del. et lith.

Mintern Bros. imp.

RED-HEADED BUNTING.
EMBERIZA LUTEOLA.

EMBERIZA LUTEOLA.

(RED-HEADED BUNTING.)

Emberiza luteola, Sparrm. Mus. Carls. fasc. iv. tab. 93 (1789).

Luteous Bunting, Lath. Gen. Synop., Suppl. ii. p. 203 (1802).

Emberiza icterica, Eversm. Add. Pallas. Zoogr. Ross.-As. fasc. ii. p. 10 (1841).

Emberiza bruniceps, Brandt, Bull. Scient. Acad. St. Pétersbourg, ix. no. 195, p. 11 (1842).

Euspiza icterica (Eversm.), Gray, Gen. of B. ii. p. 376 (1844).

"*Emberiza bruniceps*, Brandt," id. tom. cit. p. 377 (1844).

Euspiza luteola (Sparrm.), Blyth, Cat. B. Mus. As. Soc. p. 128 (1849).

Euspiza (Granativora) luteola (Sparrm.), Gray, Hand-l. of B. ii. p. 112. no. 7677 (1870).

Euspiza bruniceps (Brandt), Severtzoff, J. f. Orn. 1873, p. 365.

Granativora luteola (Sparrm.), Bianchi, Bull. Acad. Imp. Scienc. St. Pétersb. xii. p. 652 (1886).

Gandam, Hind., *Dalchidi*, Sind, *Pacha-jinuwayi*, Tel. (*fide* Oates); *Sarik-kutchkach* (Yellow-bird), Turki (*fide* Scully); *Bulle-Bulle-Goaya*, Tekke (*fide* Zarudny).

Figuræ notabiles.

Sparrman, ut suprà; Gray, Gen. of B. ii. pl. xci.

♂ *ad.* pileo, nuchâ et collo postico aurantiacis, fronte castaneo-rufo tinctâ: dorso et uropygio saturatè flavis, illo nigricante striato: alis fuscis, plumis in pogonio externo cervino marginatis: caudâ fuscâ cervino marginatâ: loris, capitis lateribus, regione paroticâ, gulâ et gutture castaneis: corpore reliquo subtùs flavo: rostro plumbeo-cinereo, maxillâ versus apicem fuscâ: pedibus fusco-carneis: iride fuscâ.

♀ *ad.* suprâ cinerea, capite et dorso nigro-fusco striatis: pileo flavido lavato: uropygio sordidè flavido: alis et caudâ sicut in mare picturatis: capitis lateribus cinereo-albidis: regione paroticâ pallidè fuscâ: gulâ, gutture et corpore subtùs cervino-cinereis, flavido lavatis: abdomine magis flavo tincto: subcaudalibus pallidè flavis.

Adult Male in spring (Lower Jaxartes). Crown, nape, and hind neck rich orange-yellow, tinged with rufous on the fore part of the crown; back and rump deep yellow, the former striped with black; wings brown, the feathers narrowly edged with creamy white; tail brown, the feathers similarly margined; lores, sides of the head, ear-coverts, throat, and the fore part of the neck chestnut-red; rest of the underparts bright yellow: bill bluish grey, dusky on the tip of the upper mandible; feet fleshy brown, darker on the toes; iris brown. Total length about 6·5 inches, culmen 0·6, wing 3·45, tail 2·85, tarsus 0·85.

Adult Female in summer (Chimkent, June 5th). Above ashy grey, streaked on the head and back with blackish brown, the crown washed with yellow; rump dull yellowish; wings and tail as in the male; sides of the head dull greyish white; ear-coverts pale brown; chin, throat, and underparts generally

sandy grey washed with yellow, which latter colour is more pronounced on the abdomen ; under tail-coverts pale yellow. Culmen 0·55 inch, wing 3·3, tail 2·65, tarsus 0·85.

Obs. In the winter plumage the brighter colours worn in the summer are obscured by ashy margins to the feathers, and the underparts generally are washed with ashy grey. A male from Turkestan, shot in July, has the crown dull yellow, striped with blackish, and the chestnut on the throat is dull and obscured by yellow, the underparts being slightly washed with grey. According to Dr. Sharpe, the young in winter plumage is "brown like the adult female, but much more rufescent, and nearly uniform above, only a few half-concealed black streaks being visible on the back ; ear-coverts and sides of face pale rufous brown, as also the edgings of the wing-coverts and secondaries ; under surface of body pale isabelline ; the lower throat, breast, and sides of body pale sandy rufous, with a tinge of yellow on the flanks and under tail-coverts."

DURING the summer season this Bunting inhabits Transcaspia, Turkestan, and Afghanistan, and winters in the plains of India. It has been met with as a straggler as far west as Heligoland, and has been recorded as occurring as far north as Siberia, and as far south as the Persian Gulf. According to Gätke, two old males have been obtained in Heligoland—one on the 20th June, 1860, and another in September several years later.

Professor Menzbier informs me that in the summer of 1889 this Bunting was found breeding and common near the Mugodjary Mountains.

In Transcaspia, according to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 803), it was "tolerably common in the Merv and Pindé oases, between the 27th April and 4th May, and I observed a considerable number on passage on the plain of Teké. . . . The favourite resorts of this bird are the valleys of the rivers, which are thinly covered with isolated bushes and where the grass is abundant. In the Merv and Pindé oases it frequents the bushes growing here and there in the fields between the ditches, and it also affects cultivated fields. On the 23rd June, at Bayram Ali Khan, I saw fully fledged young."

According to Dr. Aitchison it is common over the Badghis, on the Afghan frontier ; and Major Wardlaw Ramsay records it (Ibis, 1880, p. 66) as being exceedingly common in Afghanistan, and breeding plentifully in the Hariab Valley. Lieut. H. E. Barnes also found it extremely common in March and April near Chaman, S. Afghanistan. It is not included by Mr. Blanford in his list of the birds inhabiting Persia, but may possibly occur there, as Mr. W. D. Cumming procured an immature specimen at Fao, in the Persian Gulf, in September 1884, which is now in the British Museum. In Turkestan it is said to be common. According to Dr. Severtzoff it breeds there ; and Mr. Pleske says that Russoff sent examples from Kschtul and Tschinas, and found it numerous on the Golodnaja steppe.

Mr. Scully, who met with it in Eastern Turkestan, says (E. Turkestan, p. 127) that "it is a seasonal visitor to the plains, arriving about the end of April and leaving in September. The birds were numerous from the end of May to July near Yarkand, where they were often seen, generally in pairs, perching on small trees (mulberries and willows), and chirping away merrily. These birds were always near cultivation, and appeared to prefer the vicinity of corn-, barley-, and lucerne-fields. This Bunting breeds in May and June ; a nestling was obtained on the 25th of the latter month ; on the 2nd July a young bird was caught (just able to fly) in

which only the lower tail-coverts showed a tinge of yellow, and a young male of the year was shot near Sanju on the 11th August." Col. Biddulph says (2nd Yark. Miss. p. 46) that he "never saw this Bunting during the winter or until May, when, on our return from the Pamir, we emerged from the hills. We first saw it at Ighiz Yar, and thenceforward noticed it in abundance everywhere in the plains and amongst cultivation. It was breeding."

Mr. Scully (Ibis, 1881, p. 575) says that it occurs on passage at Gilgit from the third week in August to about the middle of September; and Col. Biddulph obtained immature specimens in the same months, and an adult male on the 19th of May. According to Dr. Bianchi, Messrs. Grum-Grzmailo obtained it in Eastern Buchara, at Tschaschma-Chafidschan and Schir-abad.

In British India, Mr. E. W. Oates writes (Faun. Brit. Ind., Birds, ii. p. 263), it is "a winter visitor to the plains of India from the foot of the Himalayas down to the Nilgiris, and from Sind to Chutia Nagpur."

Dr. Taczanowski does not include this species in his recently published work on the avifauna of Siberia; but there is an immature specimen in the British Museum, received from Moscow, which is stated to have been obtained in Siberia.

In its habits the present species appears to resemble *Emberiza melanocephala*. Mr. Scully describes the nest as being "usually placed either in small bushes (*Kara-uk*) about a couple of feet above the ground, or touching the ground at the edges of corn-fields, and sheltered over by a small shrub (*Buyah*). It is round, from 4·5 to 5·5 inches in diameter, the side-wall about 1 inch thick, the bottom 1·5. Externally it is made up of coarse fibres, leaves, and twigs loosely put together, but the egg-cavity is lined with fine fibres wound round and round, the egg commonly lying on a bottom lining of horse-hair. In the fresh nest the egg-cavity is circular, cup-shaped, about 3 inches in diameter and 1·5 deep. By the time the eggs are nearly ready to hatch off the shape of the nest is often a good deal altered; the egg-cavity is flattened out, and instead of being cup-shaped, becomes saucer-like, and often quite shallow.

"The number of eggs is from three to four, and the latter seems to be the full complement. Four eggs obtained on the 13th of June vary in length from 0·82 to 0·85 inch, and in breadth from 0·63 to 0·65; but the average of the four eggs is 0·835 by 0·642 inch. In shape they are moderate or broadish ovals, slightly compressed at one end, and have a slight gloss. The ground-colour is pale greenish grey, with numerous spots, streaks, and blotches of sepia-brown. The markings are generally more profuse at the large end; but in some the small end and lesser half of the egg show the most numerous and crowded blotches." Major Wardlaw Ramsay says that a nest he found in Afghanistan was "built in a small bush about 2½ feet from the ground; it was cup-shaped, and composed of dried grass, stalks of plants, shreds of juniper-bark, and lined with a few goat's hairs. It contained four eggs of a pale bluish-white colour, finely spotted with purplish stone-colour, the spots becoming larger at the thicker end."

The specimens figured are the adult male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the large series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Hodscha-Kala, Transcaspia, May 9th (*Dr. G. Radde*). *b*, ♀. Tschimkent, June 5th; *c*, ♂ *ad.* Lower Jaxartes (*Dr. Severtzoff*). *d*. Central Asia (*R. Swinhoe*). *e*, ♂. S. Kisil-Kum, April 17th, 1892 (*Glasunoff*). *f*, ♂ *jun.* Jakrund, E. Turkestan, July 1889 (*Pevtzoff*). *g*, ♂ *ad.*, *h*, ♀ *juv.* India (*A. O. Hume*).



J.G. Keulemans lith.

Hanhart imp.

GREYNECKED BUNTING.
EMBERIZA HUTTONI.

EMBERIZA HUTTONI.

(GREY-NECKED BUNTING.)

Euspiza huttoni, Blyth, Journ. As. Soc. Beng. xviii. p. 811 (1849).

Emberiza buchanani, Blyth, Journ. As. Soc. Beng. xvi. p. 780 (1847), nec Blyth, op. cit. xiii. p. 957.

Emberiza huttoni (Blyth), Horsf. & Moore, Cat. B. Mus. E. I. Co. ii. p. 485 (1856-58).

Emberiza cerrutii, De Filippi, Archiv per la Zool. &c. Genova, ii. p. 383 (1863).

Glycispina huttoni (Blyth), Gould, B. of Asia, part xx. pl. xi. (1869).

Citrinella (*Glycispina*) *huttoni* (Blyth), Gray, Hand-l. of B. ii. p. 113. no. 7690 (1870).

Citrinella huttoni (Blyth), Adam, Str. Feath. i. p. 388 (1873).

Emberiza cæsia (nec Cretz.), Severtzoff, Turk. Jevotnie, pp. 64 & 118 (1873).

Glycispina buchanani (Blyth), Bianchi, Mélang. Biolog. p. 654 (1886).

Figura unica.

Gould, B. of Asia, v. pl. xi.

♂ *ad.* pileo et nuchâ cinereis, indistinctè striatis: corpore suprâ cinereo-fusco, dorso nigro-fusco striato: remigibus nigro-fuscis, primariis vix cinereo-cervino marginatis: secundariis et tectricibus majoribus castaneo-cervino conspicuè marginatis, tectricibus minoribus dorso concoloribus: rectricibus mediis nigro-fuscis rufescenti-fusco marginatis, duabus externis valde albo oblique terminatis: loris et mento cinereo-albidis: capitis lateribus et regione paroticâ cinereis: gulâ, gutture et corpore subtùs pallidè castaneis, pectore saturiore et plumis cinereo marginatis, pectoris lateribus cinereis, hypochondriis et subcaudalibus pallidè cinereo-cervinis: rostro fusco-carneo: pedibus flavido-fuscis: iride fuscâ.

♀ *ad.* sordidior et pallidior: corpore subtùs pallidiore, plumis cinereo marginatis.

Adult Male (Etawah, April 8th). Crown and nape dull ashy grey, with indistinct darker stripes; upper parts generally ashy brown, with blackish-brown stripes on the back; quills blackish brown; the primaries narrowly margined with pale ashy buff; the secondaries and larger wing-coverts broadly bordered with dull chestnut-buff; lesser wing-coverts ashy brown like the back; median tail-feathers blackish brown, margined with dull rufous brown, the two outer feathers with a large wedge-shaped patch of white extending over the terminal half of the inner web, the outer web brown, margined with white; lores and chin dull ashy white; cheeks, ear-coverts, and sides of the face ashy; throat and underparts generally pale chestnut, brighter on the breast, and the feathers having ashy margins; sides of the upper breast grey; flanks and under tail-coverts pale ashy buff: bill fleshy brown; legs and feet yellowish brown; iris dark brown. Total length about 6·5 inches, culmen 0·5, wing 3·5, tail 2·9, tarsus 0·75.

Adult Female (Ferghana, June 9th). Differs from the male in being rather paler and duller in colour, the chestnut on the underparts being much paler and obscured by ashy grey.

Obs. Males obtained in June from Dzungaria and Ferghana, in my collection, have the head and neck of a much clearer grey, the latter having scarcely any darker stripes on the crown, and one has a very distinct malar stripe. In the winter dress, which differs but little from that worn in the summer, the feathers have ashy margins, which somewhat obscure the colours, especially on the wing-coverts and underparts.

FROM the Caucasus to Kashmir this Bunting appears to be tolerably common, but I am unable to define the eastern limit of its range. Holdsworth, it is true, records its occurrence near Canton (Ibis, 1872, p. 473); but as this record was based on an unlabelled specimen (a female) which the collector, Mr. Samuel Bligh, believed he had obtained in China, though he had placed it amongst birds he had collected in Ceylon, it should be treated with caution, and as there is no other instance of this species having been observed in China, it appears probable that Mr. Bligh was mistaken.

From the Caucasus it has only been once recorded, Dr. Radde having received one which was obtained at Derbent late in July; but in Transcaspia it is stated by Mr. Zarudny (Bull. Soc. Mosc. iii. p. 802) to be common in the mountains in the upper part of the Tchandyr River, where it frequents the lower mountain zone; and in Persia, according to Mr. Blanford (E. Pers. ii. p. 259), it "breeds throughout the hills of Persia at a considerable elevation. I almost always met with it wherever the road ascended to 8000 feet above the sea; but I never saw it in summer at lower elevations, and I have no doubt that the birds which are common in parts of North-western and Central India in the winter breed on the highlands of Afghánistán and Persia. De Filippi's types were from near a village called Sardarak, almost at the foot of Mount Ararat, whilst the specimens originally described by Blyth were collected by Hutton near Kándahár."

Sir Oliver St. John speaks of it as being common in Southern Afghanistan in spring, where, according to Col. Swinhoe (Ibis, 1882, p. 113), it "arrives in the first week in April. Numbers were found resting on the city walls at Kandahar on the 8th April; and great numbers were to be seen feeding on the road all the way to Kojuk." Both Col. Biddulph and Mr. Scully record it as tolerably common on passage during the month of September in the Gilgit district, and the former adds (Ibis, 1882, p. 282) that he received specimens from the upper part of the Yassin Valley, near the foot of the Shandur plateau, in August. According to Mr. Oates (Faun. Brit. India, Birds, ii. p. 258) it is a winter visitor to the whole of the north-western portion of the plains of India, extending south as far as Khandála and Chanda, and east as far as Etawah. This species migrates through Kashmir, and has been observed in Gilgit in September, and our Indian birds probably summer in Turkestan and Persia.

It is found in Turkestan. Dr. Severtzoff, who records it in error under the name of *Emberiza cæsia*, says that it breeds there; and, according to Mr. Pleske (Rev. Turk. Orn. p. 19), Russoff obtained it at Abu-Petsch and Iskander-kul, in which latter locality it breeds. Mr. Pleske also says that several specimens were sent by the brothers Grum-Grzmailo from the Tian-schan (Dshirgalty, Kijtyñ, and Dsjan-dsjun-gol); Dr. Severtzoff (Ibis, 1883, p. 61) says that it is found in the Pamir, where it passes in great numbers in August; and I may add that Dr. O. Finsch (Reise n. West-Sib. p. 103) obtained it near Sassan, and later on, in June, met with it near Maitjerek, on the spur of the Altai Mountains.

In its habits the present species appears to most nearly resemble *Emberiza cæsia*. It affects

rocky uneven ground, where there are bushes or low trees, and especially where *Euphorbia*-bushes are scattered about. Dr. Finsch met with it in desolate rocky gorges in the mountains, where it was generally seen amongst the stones and tangled vegetation.

I find no information on record respecting its note; but its nest was found in Persia by Mr. Blanford, who writes (E. Pers. ii. p. 259) as follows:—"I took the nest and eggs of *E. huttoni* on May the 22nd. The spot was a hillside covered with low bushes, which at this season were tolerably green, close to the caravanserai of Khán-i-súrkh, about seventy miles south-west of Karmán, at an elevation of 8000 feet above the sea. I was walking up the hill amongst the bushes, which grew in close round tufts, so compact that had they not been covered with thorns they would have formed excellent cushions, when a bird, which I at once recognized as Hutton's Bunting, flew out of a bush close to me. Lifting up the upper branches, I saw a neat nest about a foot from the ground. The nest appears to have been lost; to the best of my recollection it was of moss, very neatly and compactly made. It contained three eggs, well incubated, which I have preserved. They are very pale green in colour, with small distinct rounded surface-spots and minute dots of purplish black, and fainter purplish-grey markings, the latter being chiefly confined to the larger end. The eggs measure 0·9 by 0·65 inch. I should add that I shot and preserved the hen bird to guard against error in identification. It will be seen that in the locality for the nest, and the character of the eggs, this species differs considerably from the Ortolan, which lays four or five ashy-grey eggs in a nest on the ground. The markings, however, appear similar. The eggs of *E. huttoni* appear rather larger than those of the Ortolan."

The specimens figured are the male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. Mogoltau, Ferghana, June 9th (*Severtzoff*). *c*, ♂. Tauschkau-Darja, Dzungaria, June 1889 (*Pevtzoff*).



J. G. Keulemans del. et lith.

$\frac{4}{5}$
HOUSE BUNTING.
EMBERIZA SAHARÆ.

Mintern Bros. imp.

EMBERIZA SAHARÆ

(HOUSE-BUNTING.)

Emberiza sahari, Levaillant, Jun., Expl. Scient. de l'Algérie, Atlas, Ois. pl. ix. bis, fig. 2 (1850).

Fringillaria sahara (Levaill., Jun.), Bp. Cat. des Ois. d'Eur. (Parzudaki) p. 18 (1856).

Fringillaria sahari (Levaill., Jun.), Loche, Cat. des Mamm. et Ois. observés en Algérie etc. p. 61 (1858).

Emberiza saharæ, Tristram, Ibis, 1859, p. 34.

"*Fringillaria saharæ*, Bp.," id. tom. cit. p. 295.

Fringillaria (Polymitra) saharæ (Levaill., Jun.), Heuglin, Journ. f. Orn. 1870, p. 385.

Fiseeough, Arabia.

Figura unica.

Levaillant, Jun., ut suprâ.

♂ *ad.* capite et collo griseo-albidis, nigro striatis: superciliis albis; corpore suprâ cinnamomeo-castaneo, indistinctè fusco striato: aliis nigro-fuscis, plumis conspicuè cinnamomeo-castaneo marginatis: rectricibus nigro-fuscis, cinnamomeo-castaneo marginatis: abdomine saturatè cinnamomeo: rostro flavido, versus apicem corneo: pedibus carnis: iride fuscâ.

♀ *ad.* sordidior et pallidior: capite et collo cervino-cinereis, indistinctè nigro-fusco striatis.

Adult Male (Biskra, March). Head and neck greyish white striped with black; a distinct white stripe over the eye; upper parts generally bright sandy rufous or bay, the back indistinctly striped with dark brown; wings and tail blackish brown, the feathers of the latter narrowly margined, and those of the wing broadly margined with bay or pale foxy red; throat and upper breast greyish white, striped with blackish grey; rest of the underparts warm sandy rufous: bill yellowish at the base, dark horn towards the tip; legs pale fleshy; iris dark brown. Total length about 5·5 inches, culmen 0·45, wing 3·0, tail 2·6, tarsus 0·65.

Adult Female (Biskra, March). Differs from the male in having the upper parts slightly duller and paler, and the head and neck instead of being greyish white are sandy grey; and the stripes are less distinctly defined.

Obs. According to Dr. Sharpe the young in winter plumage are "sandy rufous like the adults, but with dusky centres to the feathers, a little plainer than in the adults; head and throat a little lighter and more ashy isabelline than the back, but not grey, and with scarcely any indications of dusky streaks."

Compared with *Emberiza striolata*; the present species has the upper parts much more rufous and uniform in colour, the dark stripes being much less clearly defined, and the underparts also are much more rufous in tone of colour; the division between the grey on the neck and the rufous on the rest of the underparts is also much more clearly defined.

THE House-Bunting has a somewhat restricted range, being found only in North Africa from Tunis to Morocco.

Mr. Alessi (J. f. O. 1892, p. 316) obtained it between Nefzeona and El Djerid, Tunis, which is the only record I find of its occurrence so far east in North Africa.

In Algeria both this species and *Emberiza striolata* occur—the present species in the far south, and *E. striolata* in the north. Dr. Sharpe (*l. c.*) states that this latter species does not occur further west than Arabia; but I have before me an undoubted specimen from the collection of Canon Tristram, obtained by that gentleman at Berrouaghina, in Algeria, on the 2nd December, 1856.

E. saharae appears to be common in Southern Algeria, from which locality it was first described by Levaillant, Jun., and Loche, and later travellers all speak of having met with it there. Mr. J. H. Gurney, Jun., remarks on its abundance at Gardaia and other Mزاب cities; and Messrs. Elwes and Dixon state (*Ibis*, 1882, p. 573) that in the Province of Constantine they did not meet with it until they reached the oases of El Kantara and Biskra. In Morocco it appears to be common, especially in the city of Morocco, but I do not find it recorded from the northern portions of that country.

In its habits the present species is extremely tame and confiding. Messrs. Elwes and Dixon (*l. c.*) say that it is was certainly one of the tamest birds they ever met with; they repeatedly saw them enter the Arab houses, and were in fact so tame that Capt. Elwes endeavoured to catch them in his butterfly-net. Messrs. Hooker and Ball, who met with this Bunting in the city of Morocco, say, in their ‘Journal of a Tour in Morocco’: “During our meals, which were always taken in the central saloon, open to the sky, these birds would boldly alight beside us, and pick up the crumbs that were sometimes purposely scattered for their benefit.” Mr. Stutfield, also referring to the extreme tameness of this bird, writes (‘El Maghreb: 1200 miles’ ride through Morocco,’ p. 253):—“One very pleasing feature in Morocco is the tameness of all wild creatures. At Kaid Maclean’s dinner-table there were always a number of little birds hopping about on the cloth, which at first we thought were pets of the family, till we were told that they were the Sparrows of the city. They picked up the crumbs under your very nose, and boldly perched on the bread and the edge of one’s wine-glass, a familiarity which at times I found had its disadvantages. They are held sacred, and being thus preserved from injury are perfectly fearless and domesticated. This bird, which is called *tabib* (doctor), is quite different from the European Sparrow, being of a red-brown colour with pretty markings, about the same size, but of a less stout build. When I woke of a morning there were often two or three of these little fellows on my pillow, and others perched on the end of the bed.” Mr. J. H. Gurney, Jun., also remarks (*Ibis*, 1871, p. 292) that “they are as tame as Robins. Frequently one would hop on our carpet, to search for fragments of *couscous*, scrutinizing us within a few feet with his dark brown trustful eye. They are nearly omnivorous. I caught one in a trap baited with grain, and saw another nibbling green carrot-leaf; and once the female, at Berryan, made her appearance with a large fly, which was not swallowed without a great effort and after much mastication. They used to drink out of our goatskin, fluttering and clinging to the wall for the moisture which had oozed through. Half circles of accumulated droppings under the rafters showed where they roosted. For a few seconds before settling down for the night I used to see them hovering perpendicularly,

with quivering wings and tail brought forward; and this was the only time at which there was anything characteristic about their flight."

Referring to the habits of the present species as compared with those of *Emberiza striolata*, Mr. Dixon writes (*l. c.*):—"We failed to note the great differences of habits which are said to occur between these two birds, *E. saharae* and *E. striolata*. Mr. Elwes met with this pretty little bird amongst the rocks, away from the dwellings of men, but still tame and trustful as ever. My observations of the habits of this species agree very closely with the capital account of the habits of *E. striolata* as observed by Mr. Hume in Rajpootana."

Respecting the nidification of this Bunting the only detailed account I can find is that given by Mr. J. H. Gurney, Jun. (*Ibis*, 1871, p. 291), as follows:—"I think every house in Gardaia is tenanted by a pair of House-Buntings. They are equally common in the other Mزاب cities. A nest in the inner court at Berr̄yan was upon some plaster in a large square hole. It contained one young one, yellow about the gape, and covered with a whitish down. It was a shallow nest, made of the thin twigs of firewood, and lined with hair. The hen generally flew to it from the edge of the opposite wall. I often watched her preening herself. She liked to sit on the edge of something, and let her tail hang down, which, from constant contact with the floor, was very dirty. She usually began by puffing out every feather until she resembled a ball divided by a deep line down the middle of the breast, into which she thrust her beak. When the lower parts were finished, she would preen the back, especially underneath the wing, between the scapular feathers. This is probably the attitude in which they sleep. Scratching her head with her foot, or scraping her bill against the mortar, concluded her toilet, which occupied from three to five minutes. As I afterwards found other nests, I was able to make further observations. I think the eggs must be deposited in March, as in most instances the young had been hatched off. Judging from the one at Berr̄yan, which had flown when I returned to that place on the last day of the month, the young remain in the nest at least twenty-one days. On the 23rd of April I saw a nestling full-grown and able to feed itself, which must have been hatched about the 1st. The eggs are rather like Sparrows' eggs, but rounder. I only got three; Dr. Tristram did not get any; and there are none in the Museum at Algiers. The nest is generally, but not always, placed in a hole, and is composed of twigs or little sticks, and lined with hair, with sometimes the addition of wool or a bit of cotton. On one occasion two were found together, which probably belonged to the same bird, as one of them was unfinished. The young are less noisy than Sparrows. The female brings them food about every ten minutes; and they never chirp except when they see her. I never could detect anything in her beak, or see on what she fed them, although I watched the operation often; so I do not doubt that she reproduces what she has eaten for the benefit of her callow offspring. Until the young leave the nest the male takes no share in feeding them. The female bears away the fæces. The males sing much the loudest; indeed the females never do more than twitter; but the cock pours forth a lively strain during the season of incubation."

An egg of this Bunting, obtained at Mogador, for which I am indebted to Mr. J. J. Dalgleish, is greyish white finely spotted with brown, the spots being bolder at the larger end, and collected together, forming an irregular band or wreath, and much resembles some varieties of the eggs of the Common House-Sparrow. In size it measures 20 by 15 millimètres.

Through the courtesy of Mr. Joseph J. S. Whitaker, of Palermo, I have received a nest and three eggs of this Bunting, taken by him at Biskra on the 22nd June last. This nest, which is neatly constructed of fine grass-bents and lined with hair, measures $2\frac{1}{2}$ inches external diameter by 2 inches internal diameter, and the eggs are white, finely spotted and marked with greyish brown and dark brown. In general character they are very Sparrow-like, most nearly resembling some pale varieties of the Italian Sparrow in my collection, but are smaller in size.

The Plate of this species is copied from a painting by Mr. A. Thorburn of a live bird in the possession of Lord Lilford, and the specimens described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂, c, d, ♀. Biskra, Algeria, March 1894 (*J. J. Whitaker*). *e.* Gardaia, Algeria, April 21st, 1870 (*J. H. Gurney, Jun.*).

E Mus. H. B. Tristram.

a, ♂, b, ♀. Berryān, Mzab, December 2nd, 1856; *c, d, ♂.* Gardaia, December 6th and 8th, 1856 (*H. B. Tristram*).



J. S. Silliman del. & col.

Winters Bros. imp.

SIBERIAN MEADOW BUNTING
 EMBERIZA C. HES.

EMBERIZA CIOIDES.

(SIBERIAN MEADOW-BUNTING.)

Emberiza cia, Pallas, Zoogr. Ross.-As. ii. p. 39 (1811, nec Linn.).

Emberiza cioides, Brandt, Bull. Acad. Sc. St. Pétersb. i. p. 363 (1843).

"*Emberiza castaneiceps*, Gould, MSS.," Moore, Proc. Zool. Soc. 1855, p. 215.

Buscarla cioides (Brandt), Bonap. Rev. et Mag. de Zool. 1857, p. 163.

Buscarla castaneiceps (Moore), Bonap. ut suprâ.

Emberiza rustica (nec Pall.), Swinhoe, Ibis, 1861, p. 255.

Emberiza ciopsis, Swinhoe, P. Z. S. 1863, p. 300, nec Bp.

Emberiza gigliolii, Swinhoe, Ibis, 1867, p. 393.

Citrinella (Cia) cicoides (Brandt), Gray, Hand-l. of B. ii. p. 114. no. 7702 (1870).

"*Citrinella (Cia) castaneiceps* (Gould)," Gray, op. cit. p. 114. no. 7703 (1870).

Citrinella (Cia) gigliolii (Swinhoe), Gray, op. cit. p. 114. no. 7705 (1870).

Figura unica.

Tristram, Ibis, 1889, pl. x.

♂ *ad.* suprâ castaneo-rufus, pileo saturiore: dorso nigro striato: remigibus nigro-fuscis, primariis angustè albido, et secundariis conspicuè castaneo-rufo marginatis: tectricibus alarum minoribus cinereo-canis, reliquis nigro-fuscis, extûs castaneo-rufo conspicuè marginatis: caudâ nigricante, rectricibus mediis castaneo-rufo marginatis, binis utrinque lateralibus in magna parte albis: loris nigris: vittâ genali et gulâ albis, mystacibus malaribus nigris: regione paroticâ castaneâ: fasciâ pectorali castaneâ: hypochondriis rufescenti-castaneis: corpore reliquo subtûs albo-cinereo: colli lateribus canescenti-cinereis: rostro plumbeo-cinereo, mandibulâ pallidiore: pedibus fusco-carneis: iride fuscâ.

♀ *ad.* ubique sordidior: pileo castaneo-fusco nigricante striato, fasciâ lorali nigrâ nullâ, mystacibus minus intensis: fasciâ pectorali sordidè rufescente nec castaneo.

Adult Male (Krasnojarsk, July 24th). Crown deep chestnut, this colour extending on to the nape; general colour above warm foxy chestnut, on the interscapular region striped with blackish brown; lesser wing-coverts bluish ash, remaining wing-coverts blackish brown, externally broadly margined with warm chestnut; quills blackish brown, narrowly margined with dull white, the secondaries broadly margined with warm chestnut; median rectrices blackish, the middle feathers so broadly margined with warm chestnut that the black is restricted to the centre of the feather, the two external tail-feathers obliquely white on the terminal portion, the white on the outer feather extending over two-thirds of the length; lores black; a broad white stripe extending from the base of the bill above the eye to the nape, and a short white stripe under the eye, below which there is a black band; ear-coverts dark chestnut; throat greyish white, below which a broad band of rich chestnut crosses the breast; flanks pale reddish chestnut; rest of the underparts ashy white: bill plumbeous grey, the lower mandible paler; legs pale fleshy brown; iris dark brown. Total length about 6·4 inches, culmen 0·45, wing 3·4, tail 3·4, tarsus 0·72.

Adult Female in summer (Krasnojarsk). Differs from the male in being much duller in colour and lacking the rich chestnut tints in the plumage; the crown is dark reddish brown striped with black, there is less black on the sides of the head, and the lores are not black but brownish white, and the breast-band is dull pale foxy red and not chestnut.

In the winter plumage the adult male has the feathers margined with ashy grey, which obscures the chestnut on the breast and upper parts, especially on the crown, and the sides of the neck and throat are bluish grey. The female in winter differs also in having the feathers margined, more broadly than in the male, with sandy ash, the breast-band being entirely hidden.

Dr. Sharpe states (Cat. B. Brit. Mus. xii. p. 543) that this species has a tiny black spot at the base of the chin, and that *E. castaneiceps* differs in being smaller and in lacking this spot; but I find no black spot in any of the specimens of *E. cioides* in my collection. Dr. Taczanowski separates *E. castaneiceps* from *E. cioides*, but does not give the absence of the black spot as a distinctive character, nor does he say that *E. cioides* has this spot, but gives the distinctive characters of *E. castaneiceps* as follows:—Smaller in size, and having the pectoral band reddish isabelline and not chestnut, the female lacking the black malar stripe. Having now had an opportunity of examining six specimens from China, I am able to say that I do not consider the Chinese to be specifically separable from the Siberian bird.

GENERALLY distributed from Western Siberia and Turkestan to Eastern Siberia, Corea, Mantchuria, Mongolia, and China, the present species of Bunting has been met with as a straggler as far west as the British Isles, as recorded by Canon Tristram, who writes (Ibis, 1889, p. 293) as follows:—“Our member, Mr. R. W. Chase, of Birmingham, has lately obtained at Flamborough a specimen of this species. This specimen is stated to have been taken there in October 1887, and to have been mounted from the flesh by Matthew Bailey, who did not know the bird, and was quite ignorant of the interest attaching to it. The species has considerable seasonal variation, and this specimen agrees exactly with one in my own collection obtained near Lake Baikal in the month of October. So far, therefore, the evidence of its occurrence at Flamborough seems satisfactory. But it is curious that the bird has never been met with before in Europe, not even in that resort of unwonted stragglers, Heligoland.”

Mr. Chase informs me that he found on making inquiries that the above-named date of capture is an error, and that the bird was caught by William Gibbon, fisherman, at Flamborough, south of the headland, in November 1886. These particulars were communicated to Mr. Chase by Matthew Bailey. The correction in date was given in the ‘Yorkshire Naturalist,’ 1889, p. 356.

I do not find any record, beyond the above, of its occurrence west of the Ural range; but Taczanowski states that it occurs in Western Siberia; Mr. Seebohm received examples, both in breeding-plumage and in autumnal dress, from Krasnojarsk; and Pallas found it in the mountains of the Jenesei and throughout Dauria, and says that Steller met with it from the Augara and Lena to Kamschatka; but Dr. Dybowski did not find it in the last-named country.

Middendorff obtained a single example at Udskoj-Ostrog on the 11th December; and Radde remarks that it remains later in the autumn than any of the other Siberian Buntings, and that a few remain there over winter. In Dauria it is, he says, not common; he obtained it with *E. rustica* on the island of the Central Onon early in September, and on the Central Amoor, where it is not uncommon, late in March. On the 2nd May he found females breeding on the

plains on the Udir River above the Bureja Mountains. Maack obtained a female in Nertschinsk on the 21st April (O.S.).

According to Taczanowski it is resident in Eastern Siberia; and Godlewski states that it is tolerably common in the Southern Baikal, in Dauria, and the Ussuri country to the coasts of the Sea of Japan. Mr. F. Dörries says (J. f. O. 1888, p. 85) that he found it "common in spring on Askold, where it arrives about the middle of March, and it was also observed on the island in the late autumn, but it migrates southwards in the winter. In the Suifun and Ussuri districts it also appears early in March in flocks of ten to twelve individuals. We observed it on the Bykien in summer. It would appear that it breeds in the Ussuri district." Taczanowski records it (P. Z. S. 1887, p. 606) from Corea, and I have received specimens from there collected by Mr. Campbell.

With regard to its southern range, both Severtzoff and Pleske state that it is found in Turkestan; and the former says that it is common on passage, but rare in the winter, and he thinks that it may possibly breed in the more elevated portions of the country. Col. Prjevalski speaks of it as being very common in South-eastern Mongolia, and he obtained specimens at Ala-shan, but did not observe it in Kan-su. It appears to be found throughout a considerable portion of China; the Rev. H. H. Slater (Ibis, 1882, p. 434) recorded specimens from Szechuen; Mr. Maries obtained it in the Ichang Gorge, on the Yangtze River; Styan states (Ibis, 1891, p. 354) that it breeds at Kiukiang; Swinhoe records it from Amoy; and Mr. de la Touche speaks of it (Ibis, 1892, p. 428) as being "common in the Foochow district from the beginning of September to the late spring. I strongly suspect that it breeds in the district. Also obtained near Swatow."

With regard to the Chinese and Mongolian birds which Dr. Sharpe (Cat. B. Brit. Mus. xii. p. 544) separates from typical *E. cioides* under the name of *E. castaneiceps*, Mr. Seebohm also remarks (Ibis, 1889, p. 296) that the characters given by Dr. Sharpe will not hold good, as males in his collection from Jenesei vary in length of wing from 3·5 to 3·1 inches, and those in the Swinhoe collection from China from 3·1 to 2·9 inches, that more than half his Jenesei specimens lack the tiny black spot on the chin, and that some Chinese examples have more white on the outer tail-feathers than a selected few of the Jenesei skins; he further adds that the British-killed bird "lacks the black spot on the chin, that the wing and tail measure each exactly 3 inches, and that the white on the outer tail-feathers is so nearly intermediate between the two extremes that it would pass for either of them."

I am indebted to the Rev. H. H. Slater for the loan of six specimens from China, which I have carefully compared with my series, and can detect no difference except in size, the Chinese birds being on an average somewhat smaller than those from Siberia, but in plumage they do not differ. The four adult males in Mr. Slater's collection measure—culmen 0·4 to 0·45 inch, wing 3·05 to 3·25, tail 2·9 to 3·0, and tarsus 0·30 to 0·85.

In Japan the present species is replaced by a closely allied form, *Emberiza ciopsis*, Bp., which differs in having the ear-coverts black instead of chestnut.

With regard to the habits of the present species Dr. Dybowski says that in Eastern Siberia it frequents the slopes of the mountains, especially those facing the south, and localities which are but sparsely covered with trees. Godlewski also states that it frequents the southern

mountain-slopes where there are scattered bushes, and bushes in cultivated localities, and is everywhere resident, but during severe winters it moves a little further south, returning in the spring early in April. In Mongolia, Col. Prjevalski writes (Orn. Misc. ii. p. 308), it is to be found "in the bushes on the mountains, avoiding large woods, and therefore we found it only on the slopes of the Muni-ul Mountains"; and in China, according to Styan (Ibis, 1891, p. 354), it affects "the hilly country, though it is found in less numbers on the plains. It is found on the more open parts of the wooded ranges, and is one of the few birds which frequent the absolutely bare (except for grass) hills so common in China."

Godlewski, who found it breeding in Eastern Siberia, says that "early in May it commences to build its nest, which is placed on the ground at the foot of a bush, carefully hidden, or sometimes on a bush, though never above half a metre from the ground. About the middle of May the female commences incubation, the eggs being four to six in number, and is very attentive to her incubatory duties; the male keeps watch, singing, perched on a distant bush, and gives an alarm-signal when the least danger threatens, on which the female slips off on foot and joins the male without one being able to see from whence she comes, and feigns utter indifference—consequently the nest is difficult to find; but when the eggs are incubated she sits close, and does not leave the nest until nearly trodden on.

"The song of the male is agreeable, though short. After leaving the nest the young birds remain in the same vicinity with their parents."

Dybowski states (J. f. O. 1873, p. 87) that "it commences nidification in the latter half of March, building its nest in a depression below a bush, generally a wild apricot. The nest is smaller than that of *E. leucocephala*, constructed of dried grass-bents, the inside being of smaller and finer ones, and lined with horse- or cattle-hair, but not closely lined, and it is a strong but not stout structure; outer diameter 115 millim., height 45, inner diameter 65, depth 25. The clutch usually consists of four, seldom five eggs, resembling those of *E. cia*, and they are the handsomest eggs we have here. The ground-colour is white with a violet tinge, on the larger end surrounded with a beautifully drawn wreath of fine dark brown irregular lines, the rest of the egg being unmarked or marked with a few indistinct lines; some of these lines are in places widened so as to form a thick dark patch. Some eggs resemble those of *E. hortulana* in markings, being marked, like those, with thick spots and short streaks without having a distinct wreath. There are always a few ash-grey indistinct spots and streaks on these eggs. The eggs from different clutches measure: 22-15.5 millim., 22-16, 21-15.5, 20-15.5, 20-16, 19-16.5.

"In the middle of June we found newly hatched young or much incubated eggs. The song of the male is very melodious, but interrupted as with the other Buntings, and it sings from a bough near the nest. When anyone approaches it warns the female by an alarm-note, and the latter slips off the nest, but does not take wing for some distance; and this combined with the difficulty in climbing about the steep precipices makes it difficult to find the nest."

In Mongolia Col. Prjevalski took several nests built of dry grass, on the ground, in the bushes. Each contained four fresh eggs, of a dull white, with a band of black zigzag marks at the larger end, and sometimes with some large black spots.

Eggs in my collection, obtained from Dr. Dybowski, agree closely with his description as above cited.

The specimens figured are the male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens :—

E Mus. H. E. Dresser.

a, b, ♂. July 24th; *c*, ♂. December 17th, 1878, Torgaschino, Krasnojarsk, Siberia (*Kibort*). *d*, ♂. Krasnojarsk, February 29th, 1880 (*Kibort*). *e*, ♀. Lake Baikal, October 21st, 1869 (*Dybowski*). *f*, ♀. Lake Baikal, September 4th, 1869 (*Dybowski*). *g*, ♂, Söul, Corea, January 29th; *h*, ♀. Söul, Corea, April 15th, 1889 (*Campbell*).

E Mus. H. H. Slater.

a, b, ♂. Szechuen, 1880 (*W. G. Greig*). *c*, ♂. Kiukiang, April 1888; *d*, ♂. Kiukiang, June 1889; *e*, ♀. Nankin, February 21st, 1888 (*F. W. Styan*). *f*, ♂ *juv.* Foochow, August 27th, 1893 (*De la Touche*).



SKYLARK
ALAUDA GULGULA

J. G. Keulemans del et lith.

ALAUDA GULGULA.

(INDIAN SKY-LARK.)

- Alauda gulgula*, Franklin, Proc. Zool. Soc. 1831, p. 119.
Alauda gracilis, Blyth, J. As. Soc. Beng. xi. p. 201 (1842).
Alauda gangetica, Blyth, J. As. Soc. Beng. xii. p. 181 (1843).
Alauda triborhyncha, v. *leiopus*, Hodgs. in Gray's Zool. Misc. p. 84 (1844).
Alauda cristata (partim), Gray, Gen. of B. ii. p. 380 (1844).
Alauda malabarica (nec Sykes), Horsf. & Moore, Cat. B. Mus. E. I. Co. ii. p. 467 (1856).
Alauda cælix, Swinhoe, Zoologist, 1859, p. 6723.
Alauda sala, Swinhoe, Ibis, 1870, p. 354.
Alauda wattersi, Swinhoe, Proc. Zool. Soc. 1871, p. 389.
Alauda inconspicua, Severtzoff, Turk. Jevotnie, p. 142 (1873) (see Brooks, Ibis, 1892, p. 61).
Alauda peguensis, Oates, Str. Feath. iii. p. 343 (1875).
Alauda triborhyncha, Hodgs., Radde & Walter, Vög. Transcasp. p. 39 (1888).
Alauda guttata (nec Brooks), Zarudny, Ois. de la Contrée Transcasp. p. 53 (1885).
"Buruta-pitta, Niala pichiké, Tel.; Manam-badi, Tam.; Bhurut, Hind.; Bee-lone, Burm.; Gomarita, Cing." (Oates).

Figuræ notabiles.

Hodgs. Icon. ined., *Passeres*, pl. cccxiii. fig. 2; Henderson & Hume, Lahore to Yark. pl. xx.

A. arvensi similis, sed minor, rostro longiore et graciliore.

Adult Female (Baghyr, April 15th). Resembles South-European specimens of our Common Sky-Lark; but is smaller in size, and has the bill longer and more slender; mouth yellowish; upper mandible dark horn, lower pinkish fleshy, dusky at the tip; iris brown; eyelids plumbeous; legs fleshy brown; claws pale horn-colour. Total length about 6·5 inches, culmen 0·65, wing 3·35, tail 2·0, tarsus 0·95.

Obs. The male differs from the female in being rather larger in size, the wing usually measuring about 3·5 inches. Like our Sky-Lark the variation in colour is considerable, some specimens being much darker than others. A specimen from the Indus valley obtained in June is very dark, as is also a not fully adult bird from Ladak. So far as I can see, there is no constant difference between this species and *Alauda arvensis* except size, the present species being constantly much smaller, and the bill is, as a rule, much longer and more slender.

THE range of this, the Indian representative of our European Sky-Lark, extends from Transcaspia, throughout India, Ceylon, and Burma, to Southern China and the Philippines. I have received a pair from Dr. Radde, obtained at Baghyr, Transcaspia, in March and April, which I

recorded (Ibis, 1889, p. 90) under the name of *A. guttata*, and Dr. Radde also obtained specimens from Askabad, Tachtabasar, and Sulfigar.

Mr. Zarudny (Rech. Zool. dans la Contrée Transcasp. p. 88) records it as very rare in the Ahal-Téké oasis, but very common in those of Merv and Pindé, though it was scarcely met with along the central portion of the Murghab, and it certainly breeds in Transcaspia, as he saw the young just able to leave the nest on the 18th of June. Sir O. St. John and Col. Swinhoe obtained this Lark at Kandahar, Severtzoff in Turkestan, Russoff in Tschinas, and he found it breeding at Saamin, and according to Mr. Oates (Faun. Brit. Ind., Birds, ii. p. 326) it occurs in "every portion of the Indian Empire and Ceylon except Tenasserim, south of Moulmein, and the middle ranges of the Himalayas, where it is absent or comparatively rare." He also states (B. Brit. Burm. i. p. 374) that it is "very abundant in Southern Pegu, between the Pegu and the Sittang rivers as far north as the latitude of Shwaygheen. Dr. Armstrong states that it is spread over the whole Irrawaddy delta, and Mr. Davison observed it in the plains between the Sittang and the Salween rivers and in the immediate neighbourhood of Moulmein. It is apparently absent in the Irrawaddy valley from the head of the Delta up to the frontier.

"It occurs in Siam and Cochin China, and under various names is found throughout China and Eastern Siberia." Abbé David records it from Szechuan in China, Mr. Swinhoe from Hainan, Formosa, and the Pescadores, and Lord Tweeddale from the island of Bohol in the Philippines.

In habits and song the present species appears to assimilate closely with *Alauda arvensis*. Mr. Oates states (*l. c.*) that it "chiefly frequents cultivated lands, but is also found in those portions of the plains which are covered with wild paddy and short elephant grass. It is, I believe, a constant resident (in Burma). It soars very high, and sings quite as well as the English Sky-Lark. It is in song from October, or even earlier, up to March or April."

Mr. Hume (Nests and Eggs of Indian Birds, 2nd ed. ii. p. 221) gives a very detailed account of the nest and eggs of this species, from which I gather that in its mode of nidification it much resembles our European Sky-Lark. He describes the nest as being always placed on the ground in a shallow depression, usually, he believed, scratched by the birds themselves under the shelter of some clod of earth, large stone, tuft of grass or other herbage, or a dense stunted bush. It consists merely of a deeper or shallower cup or saucer of fine grass—in many cases a mere lining to the hole or depression, in others a regular nest, the interior always being composed of the finest grass. Sometimes a few horsehairs are intermixed with the fine grass used for lining the nest. In some parts of India they breed twice in the year, sometimes as early as February and continuing till May, then again from August to October or even later.

Three appears to be the normal number of eggs, and five the maximum. The eggs, Mr. Hume says, "vary from moderately elongated to moderately broad ovals, at times a good deal pointed towards the small end, and fairly glossy. The ground-colour in some is greyish, in others yellowish white, and all are densely speckled, spotted, freckled, and even blotched with pale yellowish and purplish brown or very pale inky purple. In length they vary from 0.74 to 0.88 inch, and in breadth from 0.56 to 0.66, but the average is 0.8×0.61 ."

In the synonymy of the present species I have omitted *Alauda australis*, Brooks, Str. Feath. 1873, p. 484 (which Dr. Sharpe includes), as Mr. Brooks states (Ibis, 1892, p. 61) that this form

cannot be united to *A. gulgula*; and I have included *Alauda inconspicua*, Severtzoff, as Dr. Severtzoff informed me that he had identified his bird as being *Alauda gulgula*, and this identification is confirmed by Mr. Pleske (Rev. Turk. Ornis, p. 22).

The specimens figured are an adult male from Transcaspia and a rather younger and much darker bird from Ladak; these and the specimen above described being in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens :—

E Mus. H. E. Dresser.

a, ♂ *ad.* March 31st; *b*, ♀ *ad.* April 15th, Baghyr, Transcaspia (*Dr. G. Radde*). *c*, ♂ *ad.* Indus valley, June 29th (*Col. J. Biddulph*). *d*, *juv.* Ladak, August 26th (*Col. J. Biddulph*).

NOTES ON THE STARLINGS

INHABITING THE WESTERN PALÆARCTIC AREA.

WHEN in 1874 I wrote the articles on the Starlings in the 'Birds of Europe' I included three species, *Sturnus vulgaris*, *S. purpurascens*, and *S. unicolor*, as inhabiting the Western Palæarctic Region ; but in vol. xiii. of the 'Catalogue of Birds in the British Museum' Dr. Sharpe has subdivided these species into seven, and on these I may make the following remarks :—

To begin with, he subdivides *Sturnus vulgaris* into two species, *S. vulgaris* and *S. menzbieri*, and says (p. 29), "The Common Starling of Western Europe is easily distinguished by its colours—green head, green ear-coverts, green throat, green scapulars and wing-coverts, and steel-blue or greenish-blue flanks. The Siberian Starling, *S. menzbieri*, which visits India in the winter, and which has always been called *S. vulgaris*, differs from the English bird in having a reddish-purple head, ear-coverts, and throat, and also in its violet-purple flanks." To this I may remark that I have in my own collection specimens from England, Norway, and Sweden, killed in April and May, which have the head, ear-coverts, and throat purple and not green, and the flanks steely purple, and indeed the predominant colour of the head, ear-coverts, throat, and flanks in a large series I have examined from Great Britain and Scandinavia is purple and not green. Nor am I alone in this view, for Macgillivray describes the Starling as having purple as the predominating colour on the neck and head. Sundevall (Svenska Fogl. pl. xviii. fig. 5) figures the Starling of Sweden with the head and neck purple, and Nilsson (Skand. Faun. i. p. 224) says, in his description of *Sturnus vulgaris*, that the head and throat are purple. Specimens from Piedmont obtained in May have also the head, ear-coverts, and throat purple, and the flanks violet-purple ; hence, taking Dr. Sharpe's characteristics of *Sturnus menzbieri*, it would appear that most of the specimens obtained in Scandinavia, Great Britain, and Piedmont should be referred to that species. He certainly says (*l. c.*) that "In the British Islands, and doubtless in other parts of Europe, intermediate examples occur, more frequently in winter, when a large immigration of foreign Starlings into England takes place. These intermediate specimens vary to any extent as regards the amount of purple on the head and throat, but they are never, so far as my experience goes, true *S. menzbieri*, as they have always green ear-coverts." The specimens I have compared, however, have all been killed in April or May, and not in the winter, and they certainly have the ear-coverts purple and not green. Under these circumstances, I certainly cannot recognize *S. menzbieri* as a valid species or even subspecies.

The next species included by Dr. Sharpe (p. 35) is *Sturnus indicus*, which does not occur within the limits of the Western Palæarctic Region.

Sturnus poltaratskii, Finsch, P. Z. S. 1878, p. 712 (Sharpe, *tom. cit.* p. 36), is described by Finsch (*l. c.*) as "easily distinguishable from our Common Starling by having the back green instead of purplish violet, and the underparts below the neck of a deep purplish violet instead of green as in the remaining species." It is, however, more nearly allied to *S. purpurascens* than to *S. vulgaris*, as it has the wing-coverts reddish purple and not green, which Dr. Sharpe very

correctly points out, and differs from *S. purpurascens* merely in having the back with a tinge of green and the head purple without any tinge of green, whereas *S. purpurascens* generally has the head and neck purple with a faint greenish or bronze tinge; but these differences are so slight, and depend much on the light in which the specimen is placed, that I hesitate to acknowledge this species as a good one. A specimen obtained by Mr. Michaeloffsk between Satchany and Mzchet, for the loan of which, together with a series of selected specimens of Starlings, I am indebted to Mr. Pleske, Director of the St. Petersburg Museum, has the entire head and neck purple, the interscapular region green, the scapulars, wing-coverts, rump, and underparts purple, the abdomen violet-black, and the flanks purple.

Sturnus caucasicus, Lorenz, Beitr. Orn. Cauc. p. 9, pl. v. fig. 1 (Sharpe, *tom. cit.* p. 37), is another subspecies very closely allied, if indeed separable from *S. purpurascens*. Dr. Sharpe certainly states that it has "the wing-coverts dark steel-green, externally glossed with purple," which would be a character to separate it from *S. purpurascens*; but this must be a mistake, as in the original description Mr. Lorenz states that the wing-coverts are "violet," and one of his original specimens, for the loan of which I am indebted to Mr. Pleske, has the wing-coverts decidedly purple, exactly similar to *S. purpurascens*. This specimen differs only from *S. poltaratskii* in having the rump glossed with green, whereas in *S. poltaratskii* the green does not extend below the lower part of the back, the rump being purple.

Sturnus purpurascens, Gould (Sharpe, *tom. cit.* p. 37).—Dr. Sharpe in his description says that this species has "the mantle and back green," but Gould in his original description (P. Z. S. 1868, p. 219) expressly states that "the entire back is of a lovely purple," which is the distinctive character claimed by Dr. Sharpe for his *S. porphyronotus*, which he states (Ibis, 1888, p. 438) differs from *S. purpurascens* in having the back entirely reddish purple like the rump and upper tail-coverts.

Sturnus porphyronotus, Sharpe (*tom. cit.* p. 38, pl. ii.).—As above stated, the distinctive character claimed by Dr. Sharpe for this species is the purple back, which is the character claimed by Gould in 1868 for his *S. purpurascens*, and it therefore appears very doubtful if Dr. Sharpe's will stand. After a careful comparison of a large series of *S. purpurascens* and *S. porphyronotus*, I can discover no difference except that in *S. purpurascens* there is in the centre of the interscapular region a slight gloss of steel-green, which is not apparent in *S. porphyronotus*; but it requires a good light to detect this difference, and I can scarcely consider it of specific value.

Sturnus minor, Hume (Sharpe, *tom. cit.* p. 39), does not occur within the Western Palæ-arctic area.

Sturnus unicolor, Temm. (Sharpe, *tom. cit.* p. 39), differs from all the other Starlings in being uniform in colour, the head and back uniform and not differing in coloration. Full particulars respecting this Starling are given in the 'Birds of Europe,' iv. p. 415.

After a careful examination of a large series of specimens in my own collection and in the British Museum, as well as a selected series from the St. Petersburg Museum kindly placed at my disposal by Mr. Pleske, I arrive at the following conclusions:—

Sturnus unicolor may be placed on one side, as it is quite distinct from any other species of Starling. The remaining Starlings may be divided into two groups, viz., those having the wing-coverts green or steely blue, and those having the wing-coverts purple. The first group contains

TABLE OF DIFFERENCES IN WESTERN PALEARCTIC STARLINGS.

	Head.	Ear-coverts.	Hind neck.	Interscapular region.	Scapulars.	Rump.	Wing-coverts.	Throat.	Breast.	Abdomen.	Flanks.
<i>Sturnus vulgaris.</i>											
♂. Nr. London, May 20...	Purple.	Purple with faint green gloss.	Greenish purple.	Purple.	Steel-green.	Steel-green.	Steel-blue.	Purple.	Greenish purple.	Steel-purple.	Steel-purple.
♂. Christiania, May	Reddish purple.	Purple.	Purple.	Bronze-purple.	Do.	Steel-purple.	Steel-green.	Do.	Do.	Do.	Do.
♂. Quickick, April 20...	Purple.	Do.	Do.	Purple.	Steel-purple.	Do.	Steel-blue.	Do.	Do.	Do.	Do.
Tunka, Siberia, May 8...	Do.	Do.	Do.	Greenish purple.	Greenish.	Steel-green.	Do.	Do.	Do.	Dark steel-purple.	Do.
♂. Nystad, Finland, April 25.	Do.	Purple with a greenish gloss.	Do.	Purple.	Steel-purple.	Steel-purple.	Steel-green.	Do.	Do.	Steel-green.	Steel-green.
<i>Sturnus polaratskii.</i>											
♂. Martha-kul, June 7. Type.	Purple.	Purple.	Purple with a tinge of green.	Purple with a green tinge.	Purple.	Purple.	Purple.	Purplish bronze.	Purplish bronze.	Dark purple.	Dark purple.
Near Mchhet (Mus. St. Petersburg).	Do.	Do.	Purple.	Greenish.	Do.	Do.	Do.	Purple.	Do.	Do.	Purple.
<i>Sturnus caucasicus.</i>											
♀. Stavropol, May 4 (Lorenz).	Purple with a greenish gloss.	Purple with a greenish gloss.	Steel-purple.	Bronze-green.	Purple.	Purple with a green gloss.	Purple.	Steely purple.	Purplish bronze.	Dark purple.	Purple.
Kislovodsk, March 2 (Dronoff).	Do.	Do.	Do.	Steel-green.	Do.	Do.	Do.	Do.	Do.	Do.	Do.
<i>Sturnus purpurascens.</i>											
Erzeroum (Dickson ♂ Ross).	Purple with a faint bronze gloss.	Purple.	Bronze-purple.	Purple, the centre glossed with steel-green.	Purple.	Purple.	Purple with a bronze tinge.	Bronze with a greenish tinge.	Purple.	Dull purple.	Bronze-purple.
Do. (Zohrab)	Do.	Bronze-purple.	Greenish purple.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.
♂. Azizeh, Asia Minor, March 12.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.
Vernoi, Turkestan, April 26.											
<i>Sturnus porphyronotus.</i>											
Yarkand	Bronze-purple.	Bronze-purple.	Bronze-purple.	Purple.	Purple.	Purple.	Bronze-purple.	Bronze with a greenish tinge.	Purple.	Dull purple.	Bronze-purple.
Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.
Gilgit	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.	Do.

only *Sturnus vulgaris* and *S. menzbieri* (which, as above shown, cannot be separated from *S. vulgaris*), and to the latter group belong *S. purpurascens*, *S. porphyronotus*, *S. poltaratskii*, and *S. caucasicus*. Of these I hold that *Sturnus porphyronotus* cannot be separated from *S. purpurascens*, and that both *Sturnus poltaratskii* and *S. caucasicus* are very close to *S. purpurascens*—differing therefrom only in being more glossed with green, the former having the back glossed with steely green and the rump purple, whereas in *Sturnus caucasicus* the green gloss extends down to the rump.

In the accompanying Table (page 235) I give the differences between the above-mentioned forms of *Sturnis vulgaris* and *S. purpurascens*, which will illustrate best my remarks on the subject.

Genus PODOCES.

Podoces, Fischer, Mém. Soc. Imp. Nat. Mosc. vi. p. 251 (1823).

Corvus apud Lichtenstein, in Eversm. Reise Buchara, p. 126 (1823).

Pica apud Wagler, Syst. Av., *Pica*, sp. 17 (1827).

Garrulus apud Gray, Hand-l. of B. ii. p. 3 (1870).

THE present genus is essentially Palæarctic, and contains only four species—*Podoces panderi*, *P. hendersoni*, *P. biddulphi*, and *P. humilis*,—all of which inhabit parts of Asia.

With regard to its systematic position, I may remark that Dr. Cabanis, in 1847 (Arch. f. Naturgesch. i. p. 335), and Bonaparte, in 1850 (Consp. Gen. Av. i. p. 388), put it under *Fregilinæ*. Lichtenstein, in 1854 (Nomencl. Av. Mus. Berol. p. 10), kept it in the same neighbourhood, though separating it from *Fregilus* and *Pyrrhonorax* by the intervention of various other forms. G. R. Gray, when he wrote his 'Hand-list' and placed it amongst the Jays, had never seen a specimen of the genus. Dr. Sharpe (P. Z. S. 1870, p. 334) expressed a belief that these birds are Desert-Starlings, probably allied to the genus *Pastor*, or perhaps more strictly to the South-African genus *Dilephus*, but added that they appear also to exhibit characteristics pointing to the genus *Certhilauda*. In the Brit. Mus. Catalogue, however, he places *Podoces* in the subfamily *Fregilinæ*. In 1872, Sundevall (Tentamen, p. 42) placed *Podoces* in *Nucifraginæ*, which he makes to follow *Fregilinæ*. Professor Menzbier and Mr. Zarudny, who have studied the habits of *Podoces panderi*, agree that it has much affinity with the Nutcracker, and, so far as I can judge, I think that the genus *Podoces* should be placed near both *Pyrrhonorax* and *Nucifraga*. The birds belonging to this genus are essentially inhabitants of the desert, run with great swiftness, and are usually found on the ground and on low bushes. They feed on insects of various kinds, which they chiefly pick up from the ground; and a noticeable character in these birds is the presence of the stiff feathers which cover the nostrils, and which evidently protect them when the bird is busily employed in grubbing about in the fine sand in search of insects. But little is known about the habits and nidification of any of the Ground-Choughs, excepting *Podoces panderi*, and full particulars of these are given in the article on that species.

Podoces panderi, the type of the genus, has the bill rather long, tolerably stout, tapering to a point, slightly deflected towards the tip; nostrils basal, well covered by stiff feathers directed forwards; wings extending to about the middle of the tail, broad, the first quill considerably shorter than the secondaries, the second slightly longer than the seventh, the fifth longest; tail moderately long, slightly rounded; legs stout, long, the tarsus covered anteriorly with six large and three inferior scutellæ; claws moderately stout, curved, acute.



J. S. Neulemans del et lith.

Illustration of the bird.

PANDERS GROUND CHOUGH.
PODOCES PANDERI.

PODOCES PANDERI.

(PANDER'S GROUND-CHOUGH.)

Podoces panderi, Fischer, Mém. Sc. Imp. Nat. Mosc. vi. p. 251, pl. xxi. (1823).

Corvus panderi (Fischer), Licht. in Eversm. Reise Buchara, p. 126 (1823).

Pica panderi (Fischer), Wagler, Syst. Av., *Pica*, sp. 17 (1827).

Garrulus (Podoces) panderi (Fischer), Gray, Hand-l. of B. ii. p. 3. no. 6081 (1870).

Figuræ notabiles.

Fischer, ut suprâ; Bogdanoff, J. f. O. 1877, pl. iii. fig. 2; Gould, B. of Asia, v. pl. lxii.; Reichenbach, Syst. Av. pl. lxxxv.

Ad. capite et corpore suprâ cæruleo-canis, uropygio imo vinaceo-isabellino: primariis nitidè nigris, medialiter albis: secundariis ad basin nigris et albo terminatis, intimis ferè omnino nigris, tectricibus alarum minoribus scapularibusque dorso concoloribus: tectricibus majoribus nigris, conspicuè albo terminatis: caudâ supracaudalibusque nitidè nigris: maculâ pone oculum et vittâ inter oculum et rostrum nigris: mento et gulâ albis, maculâ magnâ pectorali nigrâ: corpore reliquo vinaceo-isabellino: subcaudalibus albidis, vinaceo-isabellino tinctis: rostro cinereo-plumbeo, versus apicem nigro: pedibus pallidè cæruleo-albis: iride fuscâ.

Adult Female (Kizil-Kum, October 24th). Upper parts clear blue-grey, the lower rump vinous isabelline; primaries black on the basal and terminal portions, but otherwise white; secondaries black at the base and white on the apical half, the black increasing in extent, the inner secondaries being black, slightly tipped with white; lesser wing-coverts and scapulars blue-grey like the back, the larger coverts black, broadly tipped with white; upper tail-coverts and tail glossy black; a large spot between the eye and the base of the bill and a small spot behind the eye black; the stiff nasal feathers grey, with a median black line; chin and throat white; a large black patch on the lower neck; rest of the underparts vinous isabelline, paler on the middle of the abdomen; under tail-coverts white, tinged with vinous isabelline: bill plumbeous, grey-black towards the tip; legs pale blue-grey; iris dark brown. Total length about 9·5 inches, culmen 1·1, wing 4·6, tail 3·85, tarsus 1·7.

The sexes differ but very little, and I can find no appreciable difference between the male and female in my own collection. According to Mr. Zarudny the male is slightly larger in size, has the black in front of the eye and on the fore part of the neck somewhat larger, and the metallic gloss on the black feathers brighter than in the female, and it has also more black on the bristly feathers covering the nostrils. He further says that the colour of the legs varies from pale blue-grey to pure white, most birds having them nearly white, and the bill is plumbeous grey with the tip black, varying considerably in tone of colour, some birds having it lighter coloured, others blackish.

THE range of the present species is restricted to Transcaspia and Turkestan. According to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 805) this bird attains the southern limit of its range in

Transcaspia. It is very rare in the sand-plain between the Murghab and the Tedgend, where he only once met with it, in May, near the Dorte-Koyou wells. It is said to be not uncommon in the sand-hills of the desert separating the Merv oasis from the Amu-Darja.

The Turcomans, who call this bird *Tchour-Tchour*, assert that it is often met with in winter in the sands of the Kara-Koum, near the Ahal oasis, but that it is very rare in the summer.

Eversmann, in his 'Natural History of the Orenburg District' (in Russian), says that this bird "inhabits the southern steppes east of Lake Aral, and is found in sandy places covered with saxaul bushes (*Anabasis ammodendron*). It runs about amongst these bushes, and when followed hides and flies from one bush to another. It probably feeds on the seeds of this and other plants, and also on insects, especially beetles, which swarm on the sand in the spring. It leaves for the winter, but returns in April."

Professor Bogdanoff met with it throughout the Kizil-Kum desert as far as the banks of the Amu-Darja, and between Dshany-Darja and Syr-Darja, but he adds that during three journeys made through the Kara-Kum desert he never saw one, and does not believe that it occurs there. He says that it "inhabits the barren sand desert, but seldom visiting the clay portions, and is never found far from the sand. I never once saw one on stony ground or on the desert mounds, nor near rivers, lakes, or the sea, and one can say with certainty that it requires no water and never drinks. In the desert it affects places which are sparsely covered with bushes placed far apart. In the saxaul thickets and tamarisks, which form regular forests along the dry river-bed of the Dshany-Darja, this bird is never met with. . . . Most of the year this bird lives singly, and may be found running all day about the sand near the bushes seeking food. It runs like the gallinaceous birds, and I never saw it hop or jump like a Magpie; but it runs very swiftly, and can seldom be forced to take wing. Its flight reminds one of that of *Pica*, *Garrulus*, and *Lanius*. After having flown a short distance, it alights and seeks safety by running. It seldom perches on a saxaul branch, and only when it wants to examine a suspicious-looking place. . . . In the spring and summer I found only larvæ of insects, probably of different sorts of *Blaps*, which abound in the desert, in the stomachs of these birds, and in less quantity also full-grown insects. In the autumn, as early as August, this food disappears entirely, and they are dependent on the seed of the saxaul, various *Calligonum* and other desert plants, and probably feed on these throughout the winter. Late in the autumn this bird follows the Kirghiz flocks, and seeks its food amongst the droppings of domestic animals. For this purpose it frequents the caravan-routes and the dwellings of the nomadic Kirghis, where it may be seen running about quite close to the kibitkas, not showing any fear of man, seeking food amongst the refuse. It is found in the Kizil-Kum desert throughout the year, and Mr. Eversmann's statement that it goes south in the winter is quite incorrect. I have but seldom heard its call-note, which is loud and harsh, reminding one of the cry of a Woodpecker. It moults from August to the middle of September."

Zarudny says that he found this species "somewhat rare in the Bucharra district, in the sandy desert strips bordering the cultivated land on the southern banks of the Amu-Darja, between Tschardjui and the locality 'Maidan,' near Kerki. I was told that here and there in the sand-desert, along the roads leading out of the Amu-Darja valley to Andhoi, it is common, as also in the country of the Afghan-Turcomans. Throughout all Transcaspia I know of no place where this

bird is so common as in the sand-desert between the northern boundary of the Merv oasis and the gardens of Tschardjui. Here it lives in great numbers, and here one must look for the characteristic signs showing a locality most suited to its habits. Should one, however, find these signs in some other portion of the desert it by no means follows that the bird will be found there, for I know of many such localities in Transcaspia where the bird is entirely wanting, as, for instance, in the southern Usboj, and the district between the Caspian and the western spurs of the Balchan, Kurianin-Dagh, and Atrek Mountains—or where it only seldom occurs, as between the central portions of the Murghab and Tedgend. The place where it is most numerous appears to be the central portion of the Karakum-Kizilkum desert, north and south of the Amu-Darja, and the southern boundary of its range appears to be the southern boundary of the Transcaspian and Afghan-Turcoman deserts.”

Severtzoff records it from Turkestan, where it is, he says (Turk. Jevotnie, p. 64), resident in the north-western portion in the lower parts, on the salt-plains.

The best information I have found respecting the habits of this bird is that furnished (*l. c.*) by Mr. Zarudny, from which I glean that it is essentially an inhabitant of the sand-desert, especially where the saxaul is found in abundance. It is usually seen running about in the sand and amongst the saxaul bushes. Its flight, he says, “reminds one of that of the Nutcracker, but is somewhat swifter, and I have never observed it to rise higher than 40 to 50 feet or to cover any considerable distance. Usually it flies just above the ground, at most at an altitude of a few feet. When frightened or when hurrying to a feeding-place it first flies and then runs a short distance, alternating almost imperceptibly between the one and the other mode of locomotion.”

Its note, Mr. Zarudny writes (*l. c.*), “is not loud, but can be heard at a considerable distance in the stillness of the desert, more especially early in the morning and in the evening, when sounds are always most distinctly heard, and this bird calls oftenest then. The note is peculiar, and though reminding one somewhat of the call of *Scotocerca inquieta*, yet bears no resemblance to the note of any other known bird. It consists of a quick repetition of peculiarly modulated syllables, *dschi-dschi-dschi*, . . . which are uttered monotonously without any alteration in tone. It appears to be the call-note of both sexes, and is intoned according to circumstances. I have never heard it utter any other note, and do not think its voice is capable of any great modulation. It certainly cannot mimic like the Common Jay (*Garrulus glandarius*), which is often an excellent mimic, and we should not lose sight of the fact that in this respect it reminds one of the Nutcracker, which is unable to imitate other sounds, and whose call-note is a continued, monotonous screech.” With regard to its food, he remarks, that “in summer it feeds on various kinds of insects and their larvæ, and especially beetles and bugs. It does not touch large beetles, but swallows large larvæ; and I have often shot specimens which had the stomach crammed with bright green *Acanthosomæ* and *Pentatomæ*, which form also the favourite food of the desert Goatsucker. *Podoces panderi* is certainly less bloodthirsty than the true Jay, for I have never known it to attack small vertebrate animals, not even lizards or small mammals which are so common in the desert. Besides animal food, it lives on the seeds of various desert plants, not only in the autumn, when insects are rare, but also in the spring, according to when the seeds are ripe, which is the case late in May with some sorts. Where the railway runs the Ground-

Chough visits the various stations and watchhouses, especially when the young are full-grown, and hunts amongst the rubbish-heaps close to human habitations in search of food, and sometimes ventures into inhabited places. They also for the same purpose search along the railway-track for grain and bread-crumbs that may have fallen down. I once shot one that had been feeding on the rice-grains out of a pilaff that had been thrown away."

It is generally believed that the Ground-Chough never drinks, but Zarudny's observations prove the contrary. He frequently saw them "drinking out of a sheep-trough near the station Utsch-Adschi, and about four versts from the Peski Station there is a watchhouse inhabited by two Persian labourers, and here these birds appeared every morning to drink out of a water-pot placed by the door for the poultry. One of these men said that a Ground-Chough was killed there by a hen, which objected to its drinking out of the pot. In early times before travellers passed through the desert, and there were no wells, it is very possible that the bird did not obtain water, and even now in more unfrequented places it is probable that it is able and does exist without water. The Ground-Chough has but few enemies, chiefly because in the desert predaceous animals are not numerous. Among these may be named, as found during the summer season, the Caracal (*Lynx caracal*), the Large Buzzard (*Buteo ferox*), and the Karagan (*Vulpes*, sp., nec *Vulpes melanotis*)."

This bird appears to be an early breeder. Fedtchenko found nests containing eggs in the eastern portion of the Kizil-Kum desert in April; Bogdanoff states that Mr. Fedurin observed young which had left the nest on the 23rd April; and Zarudny was informed that nests were found near the stations Utsch-Adschi, Peski, and Repetek, containing from two to four eggs, in the middle of February, and by the end of May the young were fully fledged. Zarudny himself found more than thirty nests, four of which were placed in holes in the ground, two being in old fox-holes, and all the rest in trees or bushes of the saxaul. One nest was built in a stack of saxaul-wood close to a house, which was the only instance he knew of this bird nesting near human habitations. Usually the nests were built on low trees from $1\frac{1}{2}$ to 6 feet above the ground, and mostly on the north or east side; and, like that of the Common Jay, the nest of this bird is generally small in comparison to the size of the bird, some being actually smaller than the nest of the Grey Shrike. Mr. Zarudny, who figures two nests (Bull. Soc. Imp. Mosc. 1890, pl. v.), remarks that three of the nests he found had a canopy of twigs over them, as is the case with Magpies' nests, but this roof is slighter than in the Magpies' nests. "Each nest," he writes (Bull. Soc. Imp. Mosc. iii. p. 462), "is composed of two distinct portions, an outer and an inner. The outer one consists of a coarse structure of twigs of the saxaul, djugun (*Calligonum*, sp.), kujau-sujuk (*Ammodendron*, sp.), and other desert plants. Sometimes this outside portion is very large and much thicker than the inner portion, but at others it is so slight and irregular that it seems to be only there on principle. The inner portion is close, dense, and firmly constructed of the finest twigs, soft dead bents, and leaves of various grasses, chiefly, however, of soft strips, which probably are from the bark of the saxaul or djugun, for in the saxaul-thickets there are always rotten trunks with ragged bark to be found. These strips are, by the way, the most valued material for the construction of the nests of many other desert birds, as, for instance, *Lanius grimmi*, *L. assimilis*, *Iduna languida*, *Scotocerca inquieta*, &c. For further material fine root-strips are used and the hair of hares and of a small fruit which is

covered with coarse long reddish hairs. There is no regular internal lining to the nest, and but seldom one finds a few feathers on the sides and bottom. The general colour of the nest is grey; in form it is half-round or oval, and in the latter case it is not so deep as in the former, but in general the difference is but slight."

Mr. Zarudny arrived in Transcaspia too late to take the eggs, and was therefore unable to give any account of them; nor can I find that any description has been published, though they were exhibited by Dr. Cabanis at a meeting of the German Ornithological Society on the 10th October, 1872, and figured in the *Journ. für Orn.* (1873, pl. iii. figs. 37, 38). Judging from this plate, which is not a very good one, they somewhat resemble eggs of the Chough, but are much smaller, in size about equalling those of the Common Jay.

The Russians call this bird the Saxaul Jay, but, as Zarudny points out, it is not in any respect a Jay, but has much more affinity with the Nutcracker (*Nucifraga caryocatactes*); and Prof. Menzbier confirms this view. Mr. Hume, however, remarks that in external form it bears most resemblance to the Chough.

"It is worthy of note," Mr. Zarudny says, "that in the summer and autumn—if in the winter I cannot say—both young and old birds have the tibia bare to a much greater extent than in any allied group, for the lower part of the tibia is very sparsely feathered or else (at least in the summer) almost bare, which shows close affinity of the legs of the Ground-Chough to those of the so-called *pedes cursorii*, which similarity is increased by the slightly curved claws, the flat under surface of the toes, their general flatness, and the blunt claws of the old birds, though in young birds they are as sharp as in adult specimens of the true Jay. The difference in the length of the claws of various individuals is very perceptible, as in some they are fully a third longer than in others."

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Prepetek, Transcaspia, September 30th, 1887 (*Zarudny*). *b*, ♀ *ad.* Kizil-Kum, October 24th, 1874 (*Severtzoff*). *c*, ♀ *ad.* Peski, July 31st (*Prof. Menzbier*).

E Mus. Brit.

a, ♀. Tambai Kasgan, Kizil-Kum desert, July 13th, 1874 (*Severtzoff*). *b*. Bokhara (*Tweeddale coll.*).



L. H. M. 1881

PERSIAN JAY
CARPODACUS PERSICUS

Mintern. Bros. imp

GARRULUS HYRCANUS.

(PERSIAN JAY.)

Garrulus hyrcanus, Blanford, Ibis, 1873, p. 225.

Soika, Russian; *Kagno-Agraw*, Armenian; *Balut-Khor*, Persian.

Figuræ notabiles.

Blanford, E. Persia, ii. pl. xviii.; Radde, Orn. Cauc. Taf. iv. figs. 2, 3.

Ad. G. glandario affinis, sed minor: tarso brevior: pilei plumis nigris, angustè rufescenti-vinaceo vel rufo-schistaceo marginatis, haud albidis: gulâ isabellinâ in colorem saturatiorem pectoris gradatim transeunte: remige secundo penultimo et plerumque ante penultimo maculâ ferrugineâ magnâ ad pogonium externum signatis.

Adult. General colour above rufescent vinaceous, the feathers on the crown black, margined with rufescent vinaceous or rufescent grey; nasal bristles isabelline, tipped with black; wings and tail as in *Garrulus glandarius*; cheeks more rufous than in that species; throat pale rufescent vinaceous; rest of underparts deep vinous red, rather darker on the flanks, the lower abdomen, vent, under tail-coverts, and thighs white: beak, legs, and iris as in *G. glandarius*. Total length about 11·0 inches, culmen 1·25, wing 6·5, tail 5·2, tarsus 1·6.

THE Persian Jay, as its name implies, inhabits Persia, ranging into the Talysch lowlands in the Caucasus. Dr. Radde (Orn. Cauc. p. 134) considers all the forms allied to *Garrulus glandarius*, the present one amongst them, to be merely varieties of that species, and it is therefore somewhat difficult to separate his remarks so as to show which relate solely to the present form; but it would appear that he only obtained *G. hyrcanus* from Lenkoran, and in the winter season. Mr. Blanford (E. Pers. ii. p. 266) says that he found this Jay common in the hill-forests north of the Elburz, where specimens were obtained by himself and also by Sir O. St. John, who adds that his collector obtained it in the forest of Mazandaran in winter, and he himself saw it in the oak-forests of the same province at an altitude of 5000 to 6000 feet, and in the neighbouring province of Ghilân in the lower hills, but did not observe it in the low forests between the mountains and the sea.

In habits and nidification the present species is stated to agree very closely with our Common Jay. I have received a clutch of eggs, stated to belong to this species, which closely resemble those of *Garrulus brandti*.

The bird figured and described is one of the typical specimens, for which I am indebted to Mr. W. T. Blanford, and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Elburz Mountains, February 1870 (*W. T. Blanford*).

E Mus. Brit.

a, ♂. Mazandaran (*Sir O. St. John*). *b*, ♀. Anan, Elburz Mountains, Mazandaran, 6500 feet, August 12th, 1872 (*W. T. Blanford*).

GARRULUS MINOR.

(AFRICAN JAY.)

Garrulus minor, Verreaux, Rev. et Mag. de Zool. 1857, p. 439, pl. xiv.

Garrulus glandarius, Sharpe & Dresser, Birds of Eur. iii. p. 481 (1873, partim).

Djirire, Arabic; *Derraz*, Moorish (*fide* Loche).

Figura unica.

Verreaux, ut suprâ.

Cinereo-vinaceus: pileo albo, plumis elongatis, medio nigris nec fasciolatis: maculâ mystacali nigrâ: gulâ, jugulo, abdomine postico tectricibusque caudalibus candidis: alis caudâque nigris: tectricibus minoribus cæruleo, albo nigroque obsoletè fasciatis: speculo alarum longitudinali niveo. (*Verreaux.*)

Adult (Algiers). Resembles *Garrulus glandarius*, but is smaller in size, and has the head and neck vinous-red, and the back grey, and the feathers on the crown are considerably blacker than in *G. glandarius*: beak blackish brown; iris pale blue; feet and legs light reddish brown. Total length about 12 inches, culmen 1.1, wing 6.8, tail 6.0, tarsus 1.65.

WHEN we wrote the article on *Garrulus glandarius* in the 'Birds of Europe' we considered that this bird was not specifically separable from our European Jay, but since then I have examined specimens from Algeria and Morocco, and find that it is a fairly separable geographical race, and that Verreaux was quite justified in describing it as a distinct species. As yet but little is known respecting this Jay, and specimens are very rare in collections. Canon Tristram does not appear to have met with it in Algeria; but Loche (Expl. Scient. Alg., Ois. p. 122) says that he found it much rarer than *G. cervicalis*, and he only met with it in the southern portion of the Province of Algiers. Nor does Favier appear to have met with it near Tangier, but there is a specimen in the British Museum obtained near that town by Capt. Savile Reid.

So far as I can ascertain, nothing has been placed on record respecting the habits and nidification of the present species, but we may take it for granted that it does not appreciably differ in these respects from our common European Jay.

As the differences between *Garrulus minor* and *G. glandarius* are easily perceptible from the description, I have not deemed it necessary to give a figure of the present species.

I do not possess a specimen in my own collection, and the above description is taken from one in the British Museum.

In the preparation of the above article I have examined the following specimens:—

E Mus. Brit.

a. Algiers (*Lefevre*). *b.* Tangier, February 25th, 1883 (*Capt. Savile Reid*).



J. G. Keulemans del et lith.

WHITEWINGED WOODPECKER.
PICUS LEUCOPTERUS.

Montez Bros. 1890

PICUS LEUCOPTERUS.

(WHITE-WINGED WOODPECKER.)

Picus (Dendrocopus) leucopterus, Salvadori, Atti R. Ac. Sc. Tor. vi. p. 129 (1870-71).

Picus cabanisi (nec Malh.), Severtzoff, Turk. Jevotn. p. 68 (1873).

Picus leptorhynchus, id. Ibis, 1875, p. 487.

Picus leptorhynchus, var. *leucoptera*, id. tom. cit. p. 489.

Picus leucopterus, Salvad., Hume, Str. Feath. iii. p. 219 (1875).

Picus sindianus (nec Gould), Swinhoe, Ibis, 1882, p. 102.

Picus syriacus leucopterus, Seebohm, Ibis, 1882, p. 423.

Dendrocopus leucopterus (Salvad.), Hargitt, Cat. B. Brit. Mus. xviii. p. 215 (1890).

Sokochak, Turki; *Dongouse-Kouche* in Transcaspia.

Figuræ notabiles.

Sharpe, 2nd Yark. Miss. pls. xii., xiii.

♂ *ad.* *P. majori* similis, sed fronte, capitis lateribus, gulâ et corpore subtus purè albis, abdomine centrali crissoque cum subcaudalibus sanguineo-rubris: alis magis albo notatis.

♀ *ad.* mari similis, sed occipite nigro, nec sanguineo-rubro notato.

Adult Male (Tschertschen-Darja). Differs from *Picus major* in having the forehead, sides of the head, throat, and underparts pure white; centre of the abdomen, vent, and under tail-coverts red, this colour extending up to the lower breast; quills with more white than in *P. major*, this colour covering quite as much of the area of the quills as the black; soft parts as in *P. major*. Total length about 9 inches, culmen 1.25, wing 4.9, tail 3.65, tarsus 0.9.

The female resembles the male, except that it lacks the red occipital band, and differs from *P. major* in having much more white in the plumage, and the young bird differs also similarly from the young of that species. The female is rather smaller than the male, a specimen from Tashkend measuring—culmen 1.15 inch, wing 4.75, tail 3.5, tarsus 0.85.

As is the case with the Great Grey Shrike, so it is also with *Picus major* and its allies, the eastern form having much more white in the plumage than the western form. Mr. Hargitt, in his excellent work on the Woodpeckers (Cat. B. Brit. Mus. xviii.), subdivides *Picus major* into three subspecies (rather four, as he makes *Picus pælzami* also a subspecies of *P. major*), viz.: *Dendrocopus* (to use the generic name adopted by him) *major*, which inhabits Europe, the Canaries, Asia Minor, and Southern Siberia; *Dendrocopus cissa*, which inhabits Northern Siberia, north of the Altai range to 60° N. lat.; and *Dendrocopus leucopterus*, which inhabits Turkestan and Western Mongolia. In this view I cannot, however, concur. I

have received a specimen of what is said to be typical *Picus cissa* from Mr. Pleske, a male which was obtained at Tomsk, and I have carefully compared it with my series of *Picus major*, failing to find any character by which it can be separated. It is certainly whiter on the underparts, and has more white on the wings than the average run of specimens of *P. major*; but I have a specimen from France which is quite as white, and one from Tolagi, in the Archangel Government, which agrees closely with it. I have not had an opportunity of examining specimens from Kamtschatka, so cannot say if they differ from the bird from Tomsk. On the other hand, it appears to me that *Picus leucopterus* is sufficiently differentiated to be entitled to specific rank, and I have therefore decided to treat it accordingly.

This species, so far as I can ascertain, is found from the eastern part of Transcaspia through Turkestan to the Lob-nor in Western Mongolia. According to Mr. Zarudny (Rech. Zool. d. l. Contr. Trans-Casp. p. 54), "it is common in the woods skirting the Tedgend and the Murghab. On the 8th of August one was observed in the saxauls near Dorte-Koyou, where it had probably straggled from a forest of 'torangles' near Tchongoul-Djare."

Messrs. Radde and Walter (Vög. Transcap. p. 78) state that they procured five specimens which were obtained in the district from Karybend to below Serachs, on the Tedgend, except one, which was shot on the Murghab. On the 1st of April they were seen frequenting the high tamarisk-thickets and were paired. According to Severtzoff (Ibis, 1875, p. 490) this Woodpecker is resident in Turkestan, being only somewhat migratory in winter, and inhabits the lower forests of tree-groves of the Tian-shan, the Upper Syr and the Lower Syr, the Iany-Darja, and the Lower Oxus, and is particularly numerous around Tashkend. Dr. Pleske says (Rev. Turk. Orn. p. 43) that it was obtained by Russoff at Tschinas, Samarkand, the Dugdan Pass, and Iskander-kul, and breeds in the last-named locality.

Dr. Scully (Str. Feath. iv. p. 134) only saw it near Yarkand in the winter, when it was far from common. He only obtained one at Beshkant. It frequents, he says, large trees growing near the shrines, and is said to move northwards to the forest-region in the neighbourhood of Aksu in the summer.

Col. Biddulph (2nd Yark. Miss., Aves, p. 109) first saw it between Sanju and Yarkand, and it was common everywhere in the plains of Turkestan, especially between Káshghar and Marálbáshi during the winter, but he did not see it on their return in May. According to Mr. Hargitt it ranges as far east as the Lob-nor, in Western Mongolia, but neither Prjevalski nor Messrs. Grum-Grzimalo appear to have met with it.

Mr. Zarudny writes (*l. c.*) that "in its habits it resembles *P. major*, but its call is softer, though comparatively more frequently uttered. On perceiving an Owl reposing on a tree, or on discovering the den of a wolf, jackal, tiger, or wild boar, it rests on a tree and utters its call, and is soon joined by other Woodpeckers, who keep up the concert near the bird or animal. Usually it is a wild boar that causes this, hence their name of *Dongouse-Kouche*, which means 'wild boar-bird.' The young leave the nest early in June, and about the middle of August some have already assumed the adult dress. The old birds moult in the second half of July or the first half of August."

Dr. Severtzoff says that it frequents the groves of wild apricot, walnut, ash (*Fraxinus*), elm (*Ulmus*), and poplar, and is to be met with as high as the poplar grows, or about 8000 feet. It

is, he adds, not a shy bird, and is very similar to *P. major* in its habits, flying from tree to tree and exploring each for food, but it is more shy and retiring in the breeding-season.

The eggs of this Woodpecker are said not to differ from those of *Picus major*, but I have been unable to procure any.

The specimens figured are the adult male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. Tashkend, November 27th (*Severtzoff*: types of *Picus leptorhynchus*). *c*, ♀. Tedgend Steppe, March 22nd (*Dr. G. Radde*). *d*, ♂. Tschertschen-Darja (*Prjevalski*). *e*, ♀. Lob-nor (*Prjevalski*).

PICUS MAURITANUS.

(MOORISH PIED WOODPECKER.)

“*Picus mauritanus*, auct. (*P. lunatus*, auct.),” L. Brehm, Naumannia, 1855, p. 274.

Picus numidicus (nec Malh.), Reichenb. Scans. Picinæ, p. 366. no. 844 (1854).

Picus numidicus (partim), Sharpe & Dresser, B. of Eur. v. p. 33 (1871).

Dendrocopus mauritanus (Brehm), Hargitt, Cat. B. Brit. Mus. xviii. p. 216 (1890).

Nakab, Moorish.

Figura unica.

Reichenb. op. cit. pl. dcxxxiii. figs. 4213, 4214.

Ad. P. majori similis, sed lineis nigris in pectoris lateribus magis extensis, nec conjunctis sicut in *P. numidico*, sed centraliter plagâ albidâ rubro notatâ separatis: abdomine magis rubro notato: rectricibus lateribus magis conspicuè nigro fasciatis quam in *P. numidico*.

Adult Male (Tangier, May). Upper parts as in *Picus major*; underparts with the broad stripes which border the throat and fore neck extended much further than in *P. major*, but not uniting as in *P. numidicus*, there being a narrow white space between on which the feathers are tipped with scarlet; abdomen and under tail-coverts much more scarlet than in *P. major*, and even, as a rule, than in *P. numidicus*, and the lateral tail-feathers much more distinctly barred with black than in the latter species. Total length about 8 inches, culmen 1·15, wing 4·9, tail 3·25, tarsus 0·9.

Adult Female (Tangier, May). Differs from the male only in lacking the red occipital band. Total length about 7·75 inches, culmen 1·15, wing 4·9, tail 2·8, tarsus 0·85.

THE present species inhabits Morocco, where it replaces *P. major* and *P. numidicus*, being a form intermediate between these two species. According to Col. Irby, Favier records it as “resident and common in the vicinity of Tangier, being found only in large woods, where they nest in holes of trees, laying from five to six eggs, similar to those of *P. major*”; but Col. Irby adds (Orn. Str. Gibr. 1875, p. 71) that he himself “did not find this bird ‘common’ near Tangier; and as for the ‘large woods,’ there are none close to that town; about Tetuan this Woodpecker is plentiful, similar in habits to *P. major*. Favier states that they migrate across the Straits; but I should say this can hardly be the case. I have seen and shot many specimens of *P. major* in Andalusia, but never met with the African form, although three or four of the Spanish birds had some few crimson feathers on the breast.”

Dr. C. Bolle speaks of this Woodpecker as being common in Morocco in localities where there are pine-trees; and Mr. Tyrwhitt Drake met with it (Ibis, 1867, p. 425) in the mountains of Tetuan, but beyond the above notes, I find nothing on record respecting it.

I have received many specimens from a collector at Tangier, but he has not succeeded in

obtaining its eggs for me. In general habits, as well as in its mode of nidification, this Woodpecker is said not to differ from its near ally, *P. major*.

The specimens described and figured are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, b, ♂ ad., c, d, ♀ ad. Tangier, May 1892 (*Vaucher*). *e, ♀ ad.* Tangier, May 8th, 1890 (*Col. L'Estrange*).
f, ♀. Tangier, May 10th, 1893 (*Vaucher*).

E Mus. Brit.

a, ♂, b, ♀. Tangier, 1875 (*Col. Irby*). *c, ♀.* Morocco (*Tweeddale Coll.*).



J. B. Keulemans del.

$$\frac{3}{4}$$

Mintern Bros. imp.

CAUCASIAN SPOTTED WOODPECKER.
PICUS PORCINI

PICUS PÆLZAMI.

(CAUCASIAN SPOTTED WOODPECKER.)

Picus pælzami, Bogdanoff, Ptitz. Kavkaz. p. 121 (1879).

Picus major pælzami, Seebohm, P. Z. S. 1884, p. 409.

Picus major (nec Linn.), Lorenz, Beitr. Orn. Nords. Kauk. p. 44 (1887).

Dendrocopus pælzami (Bogd.), Hargitt, Cat. B. Brit. Mus. xviii. p. 214 (1890).

Persidski-dyatell, Russian.

Figura unica.

Radde, Orn. Cauc. pl. xx.

♂ *ad. P. majori* similis, sed minor, rostro graciliore : corpore subtùs nec isabellino albo, sed fusco : alis minus albo notatis, facilè distinguendus.

♀ *ad. mari* similis, sed nuchâ nigrâ, nec rubro notatâ.

Adult Male (Lenkoran). Resembles *P. major*, but smaller in size, the bill more slender, and the underparts instead of being white or creamy white are dark brown ; much less white on the inner wing-coverts than in *P. major*. Total length about 8·5 inches, culmen 1·4, wing 4·85, tail 3·0, tarsus 0·95.

Adult Female (Lenkoran). Resembles the male, except that the red occipital band is wanting. Total length about 8·25 inches, culmen 1·1, wing 4·65, tail 2·9, tarsus 0·85.

Young (*fide* Hargitt). Differs from the adult of both sexes in having the crown crimson, the red occipital band characteristic of the adult male is wanting and replaced by black ; the general colour above of a sooty black, without any blue gloss ; forehead dusky brown ; a dusky stripe behind the eye and including the upper half of the ear-coverts ; sides of the face and neck smoky white ; under surface of the body smoky brown, the sides of the body, flanks, and thighs having faint dusky striations ; vent and under tail-coverts brick-red.

THE present species appears to be confined to the Caucasus, and has therefore a somewhat restricted range. Dr. Radde, who says that he only knows of it as inhabiting the country bordering the southern shores of the Caspian, writes (*l. c.*) as follows:—"This Woodpecker certainly migrates in winter in large numbers from the mountains of Talysch to the woods on the plains, but a considerable number pass the summer in these, and commence nidification as early as the middle of March, making use for the purposes of nidification of hollow trees (*Quercus castaneæfolia*, *Carpinus*, *Fagus*, *Ulmus*, *Pterocaria*, &c.). In the winter it is common there, and even in the town of Lenkoran, and from ten to fifteen may without trouble be secured in a day." He adds that it is found in the woods as high as about 6000 feet above the sea-level. Mr. Lorenz met with it in the Northern Caucasus, on the Bermamit in February, and the Muscht Mountain in March.

Dr. Radde says that the material at his disposal, when he wrote the article on this species in the 'Ornis Caucasica,' consisted of fifty-five old birds and five young. All these were obtained in the lowlands and mountains of Talysch, whence he obtained more than one hundred in 1879 and 1880, and he never received it from any other locality in the Caucasus. He further remarks that he cannot but consider it as being a very good species, as it is subject to very little variation, and there are no specimens at all intermediate between this species and *Picus major*; in fact, examples of *Picus major* obtained in the Caucasus exhibit no tendency to brown on the underparts, but are much purer in coloration and whiter on the underparts than specimens from Central Europe. Dr. Radde gives the measurements of this Woodpecker as follows:—Males: culmen 1·05 to 1·25 inch, wing 4·8 to 4·85, tail 3·20 to 3·32, tarsus 0·92 to 0·95; females: culmen 0·95, wing 4·6 to 4·7, tail 2·80 to 2·95, tarsus 0·85 to 0·89.

I do not find any description of the nest and eggs of this Woodpecker on record, but Dr. Radde obtained in the mountains of Talysch, on the 10th June, four young birds not quite full-grown. These, he says, had large dark red patches on the crown, which in one, a male, extended from the nape close to the base of the bill, but in the other, a female, the red covered a much smaller space.

The specimens figured are those above described, and are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Lenkoran (*Dr. G. Radde*). *b*, ♀. Lenkoran, November 24th, 1879 (*Dr. G. Radde*).

E Mus. Brit.

a, ♀. Lenkoran, December 10th (*H. Seebohm*).

E Mus. H. Seebohm.

a, ♂. Lenkoran, May 1st (*Holst*).

PICUS SANCTI-JOHANNIS.

(ST.-JOHN'S WOODPECKER.)

Picus sancti-johannis, Blanford, Ibis, 1873, p. 226.

Picus medius, Danford, Ibis, 1877, p. 264 (nec Linn.).

Picus medius, var. *sancti-johannis*, Radde, Orn. Cauc. p. 313 (1884).

Dendrocoptes sancti-johannis (Blanf.), Hargitt, Cat. B. Brit. Mus. xviii. p. 288 (1890).

Tachdelen in Asia Minor (*Danford*).

Figuræ notabiles.

Blanford, E. Pers. ii. pl. ix.; Radde, Orn. Cauc. pl. xix. fig. 3.

Ad. affinis P. medio, sed pileo minus roseo, pectore albo haud fulvo, abdomine medio flavo, crisso subcaudalibusque solis coccineis, pectoris lateribus abdomineque striis nigris angustioribus signatis: rectricibus extimis fasciâ unicâ albâ mediocri transversâ, nec duabus latis notatis, penultimis extus albo maculatis, haud fasciatis, reliquis omnino nigris: remigibus e contrario maculis albis majoribus signatis. (*Blanford.*)

Adult Male (Gozna, Taurus, December 15th). Resembles *Picus medius*, but the underparts are more richly tinged with yellow and red, and much more boldly striped with black, and the red on the crown is of a more brilliant crimson; the two lateral tail-feathers have the white bars much narrower than in *P. medius*, the black bars being consequently much broader and more conspicuous. Total length 8 inches, culmen 1·02, wing 4·75, tail 2·9, tarsus 0·78.

Adult Female (Gozna, December 24th). Undistinguishable in plumage from the male. Culmen 0·9 inch, wing 4·7, tail 2·85, tarsus 0·78.

Young Male (Smyrna, June 30th). Much duller in plumage than the adult, the red on the crown duller and paler; underparts dull white, irregularly striped and blotched with black; the lower abdomen tinged with pale red.

THE present species is very closely allied to *Picus medius*, differing chiefly in being smaller, in having the underparts of a richer yellow and deeper red, and the outer tail-feathers more broadly barred with black, and is found in South-east Europe, Asia Minor, the Caucasus, and Persia.

In the British Museum there are specimens from Belgrade, on the Danube, and Petin-a-hore, in Turkey, and, according to Mr. C. G. Danford (Ibis, 1878, p. 7), it is "common everywhere in Asia Minor in oak- and fir-woods, but rarely seen among the cedars. Specimens of this bird and *P. danfordi*, killed near villages, always had sooty breasts, caused by the trees in such situations being smoke-begrimed." Canon Tristram (Ibis, 1882, p. 418) met with it in Syria amongst the cedars between Beshni and Nadjar. It appears to me most probable that this is the Woodpecker referred to by Nordmann (in D  midoff's Voy. &c. iii. p. 210) as being a rare visitant to the

Crimea. Abbott records it from Trebizond; and Dr. G. Radde obtained five specimens in the Caucasus, at Tiflis, on the Chram River, and in Betania. It occurs, he says, in the palace-gardens in the centre of the town of Tiflis in winter, and he obtained it twice there, but he adds that he never met with it in the forests of Talysch. Dr. Radde unites *Picus sancti-johannis* and *Picus medius*, and says that the Middle Spotted Woodpeckers he obtained in the Caucasus were intermediate: I have not been able to procure a specimen of this Woodpecker from the Caucasus for comparison; but, seeing that the present species inhabits Asia Minor and Persia, it appears to me most improbable that Dr. Radde is correct in his statement. Sir Oliver St. John met with this Woodpecker in the wooded hills of South-western Persia at altitudes of from 4000 to 8000 feet, where it was particularly numerous in the oak-forests; it does not, he says, extend into Central Persia.

In habits this species is stated not to differ from *Picus medius*, and its nesting-habits are doubtless similar to those of that species.

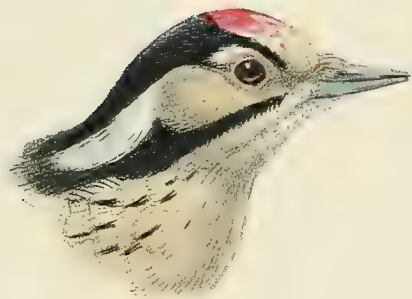
As the present species differs so little from *P. medius*, I have not deemed it necessary to figure it.

The specimens described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

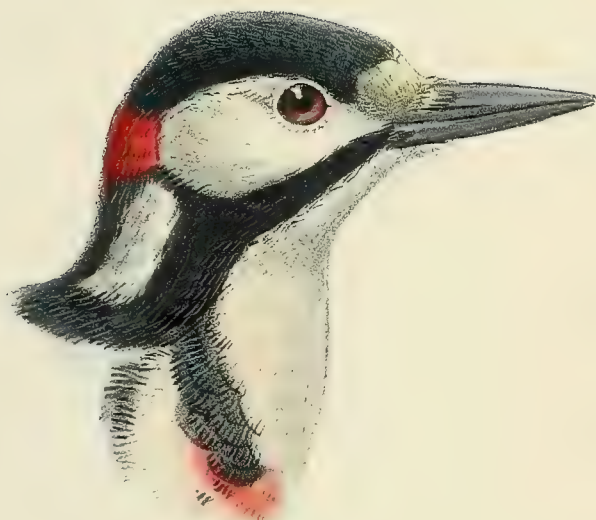
a, ♂ *ad.* Gozna, Taurus, December 15th, 1875 (*C. G. Danford*). *b*, ♀ *ad.* Gozna, December 24th, 1875 (*C. G. Danford*). *c*, ♂ *juv.* Smyrna, June 30th, 1877 (*Dr. Krüper*).



1.



2.



3.



4.

J G Keulemans del et lith.

Mintern Bros imp.

- | | | |
|---|-------|------------|
| 1 | PICUS | MINOR. |
| 2 | " | DANFORDI |
| 3 | " | MAURITANUS |
| 4 | " | NUMIDICUS. |

PICUS DANFORDI.

(TURKISH LESSER SPOTTED WOODPECKER.)

Picus minor (nec Linn.), Danford, Ibis, 1877, p. 264.

Picus danfordi, Hargitt, Ibis, 1883, p. 172.

Dendrocopus danfordi, id. Cat. B. Brit. Mus. xviii. p. 256.

Figura nulla.

Ad. P. minori similis, sed regione paroticâ in parte posteriore nigro marginatâ, corpore subtùs magis fusco lavato et hypochondriis magis nigro-fusco fasciatis.

Adult Male (Gozna, Taurus, December 17th). Resembles *P. minor*, except that it has the branch from the black malar stripe passing quite round the posterior part of the ear-coverts and joined to the occiput, and the underparts are somewhat darker and the flanks rather more distinctly barred.

Adult Female (Kuban, January 10th). Differs from the male in having the crown buffy white and not red.

THE present species can at once be separated from the other Lesser Spotted Woodpeckers by the black stripe which passes round the ear-coverts, as shown on my Plate, and is, so far as we know at present, found in Asia Minor and in Northern Caucasus, and Mr. Hargitt says (*l. c.*) that it extends into Turkey and Greece. I may, however, mention that I have one specimen from Bujukdere, in Turkey, and two from Ætolia, in Greece, all three of which are referable to *Picus minor* and not to *P. danfordi*, although one, a male from Ætolia, is slightly intermediate.

Mr. Danford (Ibis, 1878, p. 7) says that he found *P. danfordi* "common on the Bulgar-dagh among the deciduous woods and orchards. To the northward it is much rarer, doubtless from the scarcity of suitable localities."

I find nothing on record respecting the general habits or nidification of the present species, but in these particulars it doubtless does not differ appreciably from *P. minor*.

Mr. Hargitt includes (Cat. B. Brit. Mus. xviii. p. 256) the Small Woodpecker described by Dr. G. Radde under the name of *Picus minor*, var. *quadrifasciatus* (Orn. Cauc. p. 315, pl. xix. fig. 5), as a valid subspecies under the name *Dendrocopus quadrifasciatus*, and told me that he could not do otherwise, as he had been unable to borrow a specimen for examination. Dr. Radde describes it as differing from *Picus minor* in being smaller (the male measuring—total length 5·05 inches, culmen 0·6, wing 3·25, tail 2·15, tarsus 0·6), in having the underparts rather browner, and in having only four bands of white on the wings, when closed, instead of five. He obtained six specimens from near Lenkoran, and says that it is of rare occurrence in the Central Caucasus, where he only met with it on a few occasions in the mixed forests of Borshom, but more frequent in the forests of Talysch. Being desirous of settling this question, I wrote to my friend Dr. Radde,

who at once most courteously sent me one of his specimens to compare. Directly I received it I sent word to Mr. Hargitt and asked him to come to me so that we could compare it together, and received a reply saying that he was confined to his bed, having taken cold, and he never left it again, but sank rapidly, and I have to mourn the loss of one of my oldest friends, in whom ornithological science has lost one of its most careful and accurate workers.

Dr. Radde's specimen is a female, not fully adult, and, as stated by him, has only four white transverse bands on the wing instead of five, as in *P. minor*; but on one wing the fifth band is there, though only partially developed; and it appears to me that it is only a variety of *P. minor*, and not entitled to specific distinction, especially as I find in my own series of *Picus minor* two specimens which have four bands on one wing and five on the other. In every other respect the specimen in question agrees closely with examples of *P. minor* from Northern Europe, but is a trifle less in size, measuring—culmen 0·61 inch, wing 3·5, tail 2·05, tarsus 0·6. As regards the underparts, they are somewhat browner in tinge, but not browner than are several specimens of *P. minor* from different parts of Europe in my collection.

The specimen of *Picus danfordi* the head of which is figured (together with that of *Picus minor* for comparison) and those described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Kuban, Caucasus, December 10th, 1891; *b*, ♀. Kuban, January 10th, 1892 (*Tschusi-Schmidhoffen*).
c, ♂. Gozna, Taurus, December 17th, 1875 (*C. G. Danford*).

E Mus. Brit.

a, ♂ *ad.* Zebil Taurus, Asia Minor, January 7th, 1876; *b*, ♀ *ad.* Anascha, Taurus, March 24th, 1876 (*C. G. Danford*).



J G Keulemans del et lith

Mintern Bros. imp.

YELLOWBILLED GREEN WOODPECKER.
GECINUS FLAVIROSTRIS.

GEVINUS FLAVIROSTRIS.

(YELLOW-BILLED GREEN WOODPECKER.)

Gecinus squamatus (nec Vigors), C. Swinhoe, Ibis, 1882, p. 102.

"*Gecinus flavirostris*, Zarudny," Menzbier, Bull. Soc. Imp. Nat. Mosc. pt. i. p. 440 (1886).

Gecinus gorii, Hargitt, Ibis, 1887, p. 74; id. Cat. B. Brit. Mus. xviii. p. 45.

Gecinus zarudnoi, Menzbier, Ibis, 1887, p. 301.

Figura unica.

Aitchison, Trans. Linn. Soc., 2nd ser. Zool. v. pl. vi. fig. 1.

♂ *ad.* similis *G. squamato*, sed suprâ dilutius viridis: tectricibus alarum et scapularibus saturatiore viridi transfasciatis: plumis corporis inferioris squamosi lineâ nigrâ intramarginali tenui ornatis: caudæ fasciis transversis albis latis, fasciis nigris angustioribus (his in *G. squamato* latissimis, illis vero angustioribus). (*Hargitt.*)

♀ *ad.* supra pallidè viridis, plumis indistinctè fusco squamatis: uropygio imo et supracaudalibus viridi-flavis: alis et caudâ sicut in mare picturatis: mento et gulâ sordidè albidis, pectore et colli lateribus albidis vix flavido-cervino lavatis: corpore reliquo subtùs viridi-griseo nigro-fusco squamato: fronte, pileo et nuchâ nigris, plumis nonnullis albedo marginatis: striâ superciliari albâ, suprâ nigro marginatâ, vittâ mystacali nigrâ albo notatâ.

Adult Male (Afghanistan, October 26th: type of *Gecinus gorii*). Above pale green, with a few dusky V-shaped markings, the feathers of the rump and upper tail-coverts tipped with chrome-yellow; scapulars and wing-coverts pale green, barred with dusky green, the former having a few dusky V-shaped markings; bastard-wing black, spotted with creamy white on both webs; primary-coverts dusky black and similarly spotted, but with a greyer shade of colour; quills dusky black, the outer web of the primaries broadly barred with creamy white, and more or less washed with green on the inner feathers, the inner webs spotted with white on the margin; the outer webs of the secondaries barred with greenish grey, the inner webs being transversely spotted with white along the whole margin; tail yellowish cream-colour, narrowly barred with blackish brown, the basal margin of the central feathers washed with yellowish olive, the lateral feathers yellow at the tip. (The head is very much damaged, but it has every appearance of having been similar to that of *G. squamatus*; the top of the head is red and the malar stripe is black and white.) Throat and chest uniform dull greenish yellow; the under surface of the body and under tail-coverts yellowish white, the feathers of the underparts having a thread-like intermarginal line or squamate marking of blackish olive; under wing-coverts yellowish white, transversely varied with black; underside of the tail washed with yellow. Total length 13 inches, culmen 1·8, wing 6·5, tail 4·7, tarsus 1·2; toes (without claws)—outer anterior 0·82, outer posterior 0·82, inner anterior 0·7, inner posterior 0·42. (*Hargitt.*)

Adult Female (Ai Macdjary, July 18th, 1886: type of *Gecinus flavirostris*). Forehead, crown, and nape deep black, many of the feathers with white edges; nasal plumes and a narrow stripe extending to the

eye black; malar stripe black, the feathers having white edges; lores, space between the malar stripe and the eye, and a superciliary stripe dull white; ear-coverts greyish white, and a few blackish-grey markings behind the eye; upper parts pale green, the feathers on the back with an indistinct dusky V-shaped mark; lower rump and upper tail-coverts yellowish green; wings and tail as in the male; chin and throat dull white, becoming yellowish buff on the chest and sides of the neck, rest of the underparts dull white, slightly washed with pale greenish grey, the feathers with a squamate or V-shaped line of dull blackish: bill wax-yellow, rather darker on the sides of the culmen in front of nostrils; legs plumbeous grey, with a bluish tinge; iris yellowish white. Total length about 13 inches, culmen 1.65, wing 6.0, tail 4.65, tarsus 1.17.

THE present species, which has been aptly described by Mr. Hargitt as being a desert form of *Gecinus squamatus*, inhabits Afghanistan, ranging westward into Transcaspia. First discovered by Mr. Zarudny, and described by Prof. Menzbier from MS. notes sent to him by Mr. Zarudny in 1886, it was redescribed by Mr. Hargitt in 1887, under the name of *Gecinus gorii*, from a specimen obtained by Captain Gore in Southern Afghanistan, Mr. Hargitt, who had not seen a specimen of Mr. Zarudny's species, believing that this latter was not separable from *Gecinus squamatus* (Vigors). The same year Prof. Menzbier, pointing out that he considered *Gecinus gorii* to be identical with his *Gecinus flavirostris*, proposed a fresh name (*Gecinus zarudnoi*) for it, as Abbé Armand David had previously named a Woodpecker from Koko-nor *Picus flavirostris*; but as Mr. Hargitt points out that Abbé David's Woodpecker was not a *Gecinus*, but a *Hypopicus* (*H. hyperythrus*), the name *Gecinus flavirostris*, not being preoccupied, will stand. I am indebted to Prof. Menzbier for the loan of the type of *G. flavirostris*, the female above described and figured, and on showing it to Mr. Hargitt he at once admitted that it was his *G. gorii*, and that this name will accordingly sink into a synonym.

Mr. Zarudny, writing respecting the present species, says (Bull. Soc. Mosc. iii. p. 761): "I found this fine Woodpecker in the woods bordering the Central Murghab, where it is tolerably common. It probably occurs on the Tedshen-Darya, where I did not, however, observe it." It is, he adds, extremely shy and wary, and the young are even more wary than the old birds. A Cossack officer, A. A. Newsky, found a nest on the 10th April in a poplar a couple of fathoms from the ground, and about ten paces from the river. The hole was large enough to admit the hand, and was evidently made by the bird itself, and the wood being soft the bird would have no difficulty in forming it. The upper part was narrow, but below the hole was widened. The eggs, four in number, were deposited on small chips of the wood, were much incubated, pure white in colour, and measured 30 millimetres by 27.7 millimetres. According to Mr. Hargitt (*l. c.*) the type of his *Gecinus gorii* was "shot by Capt. Gore on the 26th October, 1884, at Paddá Sultan, on the Helmund. . . . The nature of the country in which the present bird was found appears to be totally different from that inhabited by the true *G. squamatus*. Dr. Aitchison informs me that the only indigenous trees are *Populus euphratica* and *Tamarix articulata*; these grow in the bed of the river, with numerous small tamarisks and reeds—the high banks being arid in the extreme, and bare of anything in the way of vegetation except salsolaceous scrub." Dr. Sharpe states (2nd Yarkand Miss., Aves, p. 108) that Col. Biddulph procured a female at Baramula. Sir O. St. John says (Ibis, 1889, p. 158) that he has seen it on the Khwaja Amran hills, and, he believes, in the juniper-forests of Ziarat, but it is, he adds, rare.

I may add that there is in the British Museum a specimen received from Col. Swinhoe which was shot by Dr. Duke in December 1877 at Quetta, at an altitude of 5500 feet, and recorded by Col. Swinhoe (*Ibis*, 1882, p. 102) under the name of *Gecinus squamatus*.

Unfortunately I have not yet been able to secure a specimen of this rare Woodpecker for my collection, and am indebted to Professor Menzbier, of Moscow, for the loan of the type, a female, which I have figured and described. The male bird figured in the background is Mr. Hargitt's type of *Gecinus gorii*, and in describing this specimen I have transcribed Mr. Hargitt's description, having found it quite correct.

In the preparation of the above article I have examined the following specimens:—

E Mus. Brit.

a, ♂ *ad.* Paddá Sultan, Helmund River, Afghanistan, October 26th, 1884 (*Dr. Aitchison*). *b*, ♀ *ad.* Quetta, December 1877 (*Col. Swinhoe*).

E Mus. Muscov.

a, ♀ *ad.* Aï Macdjary, Transcaspia, July 18th, 1886 (*Zarudny*).



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J. S. Keulemans del et lith.

Mintern Bros. imp.

PALLID SCOPS OWL
SCOPS BRUCEI

SCOPS BRUCII.

(PALLID SCOPS OWL.)

Ephialtes brucei, Hume, Str. Feath. i. p. 8 (1873).

Scops brucii (Hume), Sharpe, Cat. B. Brit. Mus. ii. p. 62 (1875).

Ephialtes scops, β . *obsoletus*, Severtzoff, J. f. O. 1875, p. 171.

Scops obsoleta, Cab. J. f. O. 1875, p. 126.

Scops brucei (Hume), Biddulph, Ibis, 1881, p. 47.

Scops strauchi, Bogd. Khiva et des Kizyl-Koum (in Russ.), p. 70 (1882).

Figuræ notabiles.

Sharpe, 2nd Yarkand Mission, Aves, pl. ii.; Menzbier, Orn. Turk. livr. iii.

Ad. cinereo-ochracea, indistinctè fusco-cinereo vermiculata: plumis striâ conspicuâ nigro-fusco medialiter notatis: subtùs pallidiore et striis magis conspicuis: remigibus fuscis, in pogonio externo pallidè ochraceo et in pogonio interno pallidè cinereo-fusco fasciatis: caudâ ochraceo-cinereâ, indistinctè vermiculatâ et fasciis quinque fulvidis transfasciatâ: loris et mento albidis: circulo fasciali ochraceo, indistinctè vermiculato et nigro apicato.

Adult Female (Amu-Darja, March 10th). Upper parts generally pale ochraceous grey, each feather with a distinct blackish shaft-stripe and indistinctly vermiculated; quills dark brown, finely vermiculated on the terminal portion, with ochraceous bands on the outer web and pale greyish-brown bands on the inner web; inner secondaries ochreous grey in tinge like the back; tail ochraceous grey, finely vermiculated and crossed by five pale somewhat indistinct fulvous bands; lores and feathers in front of and above the eye whitish; feathers of the ruff ochraceous, indistinctly vermiculated with grey and finely tipped with black; hinder ear-coverts also tipped with black; chin whitish, rest of the underparts generally like the back, but much more boldly streaked with black; flanks paler and rather more ochraceous; under tail-coverts much paler, and with a narrow blackish shaft-stripe; legs closely feathered, pale ochraceous, streaked with dark brown: bill dusky; toes dull slate-coloured; claws black; iris yellow. Total length about 8.5 inches, culmen 0.95, wing 6.4, tail 3.2, tarsus 1.4.

THIS very distinct species ranges from Transcaspia to India, but does not appear to have been obtained in Persia. Zarudny (Bull. Soc. Mosc. new ser. iii. p. 749) says that is a very rare species in Transcaspia, and he only obtained one specimen on the 13th (25th) May in the tamarisks near Dorte-Koyou, where it had evidently arrived from the oasis of Merv, but he did not meet with it elsewhere in that region. Dr. Walter obtained several specimens both on the Murghab and on the left bank of the Amu-Darja; Bogdanoff records it from the Kizil-Kum desert and the woods in the valley of the Amu-Darja; the brothers Grum-Grzimalo obtained it at Karchie, in Eastern Bokhara; and Severtzoff met with it near Tashkend and in the gardens surrounding Petro-Alexandroffsk, on the Lower Amu-Darja. Lieut. H. E. Barnes states (Str. Feath. ix. p. 452) that it is not uncommon and breeds at Chaman, in Southern Afghanistan;

Sir Oliver St. John records it (*Ibis*, 1889, p. 155) as found near Kandahar in April; and Col. Biddulph states (2nd Yarkand Miss., Aves, p. 13) that he shot a specimen between Sirhud and Panjah, in Wakhan. In India it has been recorded by Mr. Blanford (*Str. Feath.* v. p. 245), and by Mr. Doig (*op. cit.* vii. p. 505) from Sind, by Mr. Vidal (*op. cit.* ix. p. 36) from Khed, on the west coast of India, south of Bombay, and, according to Davidson (*Str. Feath.* x. p. 291), it is common in the Akrani and in the deep valleys running into the Satpuras (Western Khandesh). Eggs were brought to him early in March, and numbers of young birds in April.

Col. Biddulph records it from Gilgit, where Mr. Scully obtained specimens in March, April, and September; and in the British Museum there are examples from Sultanpur, Gurgaon, and Ahmednuggur. Finally, I may add that, according to Dr. Cabanis (*J. f. O.* 1875, p. 126), there is a specimen in the Berlin Museum which was obtained by Ehrenberg in Syria.

In habits this Owl is said to resemble *Scops giu*, of which it appears to be a desert form, and, like that species, it breeds in hollow trees, its eggs also being pure white.

According to Messrs. Radde and Walter three nests of this rare Owl were found at Sary-jasy, on the Murghab, which were in holes in the trunks of poplars (*Populus diversifolia*), which had been made by *Gecinus flavirostris* and taken possession of by the Owls. One of these nests contained two fresh eggs, and on the other two the females were captured. The eggs resembled those of the European Scops Owl, but were larger, measuring $31\frac{1}{2}$ by $27\frac{1}{2}$ millim.

The specimen figured and described is the one in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♀ *ad.* Amu-Darja, March 10th, 1887 (*Dr. G. Radde*).

E Mus. Brit.

a, ♂ *ad.* Near Gilgit, September 20th, 1876; *b*, ♂ *ad.* Gilgit, March 23rd, 1880 (*Biddulph*). *c*, ♂. Chaman, S. Afghanistan, April 23rd, 1880 (*J. A. Murray*). *d*, ♀ *juv.* Chaman, June 3rd, 1880 (*H. E. Barnes*). *e*, ♂. Hyderabad, Sind, December 16th, 1878 (*S. Doig*). *f*. Sultanpur, December 7th, 1877 (*W. N. Chill*). *g*, ♂. Ahmednuggur, January 20th, 1870 (*H. J. Bruce*). *h*, ♂, *i*, *ad.* Ahmednuggur (*S. B. Fairbank*).



J. G. Keulemans del. et lith.

W. Hartn Bros. imp.

EGYPTIAN EAGLE-OWL
BUBO ASCALAPHUS

BUBO ASCALAPHUS.

(EGYPTIAN EAGLE-OWL.)

- Bubo ascalaphus*, Savigny, Ois. de l'Égypte, &c. p. 50. no. 25, pl. v. (1810).
Strix ascalaphus (Savigny), Cuvier, Règne Animal, p. 328 (1817).
Otus ascalaphus (Savigny), Steph. in Shaw's Gen. Zool. xiii. part 2, p. 56 (1826).
Asio ascalaphus (Savigny), Lesson, Man. d'Orn. i. p. 115 (1828).
Ascalaphia savignii, Geoff. St.-Hilaire, fide Gray, List of Gen. of B. p. 7 (1841).
Ascalaphia, Lafresn. in d'Orbigny's Dict. Univ. d'Hist. Nat. ii. p. 203 (1844).
Ascalaphia ascalaphus (Savigny), Gray, Hand-l. of B. i. p. 44. no. 455 (1869).

Figuræ notabiles.

Savigny, *l. c.*; Temm. Pl. Col. ii. pl. 57; Fritsch, Vög. Eur. pl. xii. fig. 3; Schlegel & Susemihl, Vög. Eur. pl. xl.

Ad. suprà rufescenti-cervinus, nigro-fusco et albido striatus et variegatus: nuchâ minus notatâ: uropygio et supracaudalibus rufescenti-cervinis, fusco transfasciatis: rectricibus mediis dorso concoloribus, reliquis fulvidis fumoso fasciatis, extimis pallidioribus et obsoletius fasciatis: mento et maculâ magnâ gulari albis: corpore subtùs reliquo cervino, pectore nigro-fusco notato, hypochondriis et abdominis plumis dimidio apicali delicatè fusco vermiculatis: subcaudalibus magis fulvido lavatis: tarsis et digitis pallidè fulvido plumatis et indistinctè fusco fasciatis: rostro nigro: iride læte aurantiacâ.

Adult (Egypt). Upper parts warm rufous buff, mottled with blackish brown and white, the nape less mottled than the rest of the upper parts; rump and upper tail-coverts rufous buff, barred with blackish brown; tail rufous buff, barred with dark brown, the middle feathers rather paler and more broadly barred and mottled with brown; chin and throat white, the rest of the underparts buff, the breast and upper flanks with large, long, brown blotches; the abdomen, flanks, and under tail-coverts narrowly barred with dull brown; legs and feet covered with close, short, downy buff feathers, and barred with pale brown: beak black; claws dark horny blackish; iris deep yellow. Total length about 20 inches, culmen 2·2, wing 15·7, tail 9·5, tarsus 2·7.

THIS species, a southern representative of the Eagle-Owl, inhabits North Africa from Egypt to Algeria and Palestine, and though it was stated to have occurred in Sicily (*fide* Temminck, Bonaparte, and Malherbe) and in Sardinia (*fide* Malherbe), more recent investigation has shown that this statement is based on error, and there does not appear to be any record of its having been met with north of the Mediterranean. I may here remark that Señor Graells informed Lord Lilford (Ibis, 1866, p. 180) that it had been obtained in the province of Catalonia, Spain, but I think this highly doubtful.

It is said to occur close to the town of Algiers, and there is a specimen in the museum of that town. Dr. Koenig states (Journ. f. Orn. 1888, p. 163) that he saw a specimen at Tunis

which had been brought to M. Blanc, a taxidermist, in the autumn of 1886, and later, when at Tripoli, a Turk brought to him a live bird of this species which he purchased and took back to Germany with him.

On a subsequent journey to Algiers he again met with this Owl, and writes (J. f. Orn. 1895, p. 172) as follows:—"We did not find this Owl common. On an expedition we took from Waregla to the Djebel Khina on the 7th April I saw in a cleft in the rocks droppings of this Owl, and found pellets before a dark hole. We searched carefully for the bird, but could not drive it out of its hiding-place. My brother-in-law had pushed forward into a deep cleft, and had just secured an interesting Bat (*Otonycteris hemprichi*, Peters). I had sent the muleteer Achmed up above to try and get at a Buzzard's nest we had found, and whilst waiting to see what came out we heard Achmed utter a cry, and the same moment saw a large Owl dash past us. My brother-in-law took a snap-shot and brought the Owl down with a charge of no. 14. I had the place out of which the Owl had been driven pointed out to me, and searched every cranny and crack for the eggs, for the bird was an old female and must have been sitting on eggs or young birds; but though we searched everywhere we did not find the eggs. I had crept under a huge rock and tried everywhere to find the nest. In this uncomfortable place I could scarcely move, and had to get my brother-in-law to pull me out by the legs, and was glad enough to see daylight once more. I saw a second quite useless specimen of this Owl in the ditch surrounding the fortress of Khroubs."

Audouin states (Expl. somm. etc. p. 328) that it occurs in Egypt, Asia Minor, Persia, and Turkey; but I cannot find any record of its occurrence outside Africa, except in Sinai and Palestine.

In Egypt it is tolerably common, and is found as far south as Abyssinia. According to Von Heuglin (Orn. N.O.-Afr. i. p. 112), "This Eagle-Owl frequents ruins and rocky gorges in Egypt. We met with it, for instance, near Djizeh and in the valley of the Royal Tombs near Thebes. It is a resident and usually met with in pairs, and, like most of its congeners, it leaves its hiding-place on the approach of night and feeds on chiroptera, mice, desert-rats, and such like. It ranges southward to Central Nubia. It breeds in March and April, and its nest is placed in clefts of rocks or ancient Egyptian tombs, and contains two or three very round, oviform, pure white eggs, 1" 10''' to 2" long by 1" 8''' to 1" 9''' broad. I have only met with this Owl in ruins and rocks, never on trees; when taken young it soon becomes very tame. The nestlings are covered with brownish-grey down." Captain Shelley and Mr. E. Cavendish Taylor both give similar information relative to its occurrence in Egypt, where, they say, it is a resident, frequenting mountain-gorges and ruins, and the latter gentleman obtained its eggs in March.

Mr. Jesse, naturalist to the Abyssinian Expedition, obtained a specimen near Senafé, and saw another, which, however, he did not succeed in getting. He subsequently saw a live specimen which had been brought down from Magdala, where, he was told, this Owl is plentiful. How far it is met with down the Red Sea I cannot positively say, but here it meets with a tolerably closely allied form, *Bubo milesi*, which I have obtained from the Red Sea, and may possibly be met with within the limits of the Palæarctic area.

Mr. Wyatt remarks that he never met with or heard of *Bubo ascalaphus* on the peninsula of Sinai; but it certainly occurs as far north as Palestine, where, according to Canon Tristram, it

takes the place of the Eagle-Owl of Northern Europe, and is, he says (Ibis, 1865, p. 262), "the most common Owl of Palestine next to *Athene persica*, and, like it, adapts itself to the ever varying physical geography of the country. In the rolling uplands of Beersheba it resorts to burrows in the ground; at Rabbath Ammon it has its home among the ruins; in the ravines of Galilee and the Ghor it retires in security to the most inaccessible caverns. Mr. Upcher shot one which dashed out of a cave as we were climbing for Griffons' nests in the Wady Hamam, and with the other barrel brought down a Woodcock which rose from another cave at the same time. We had two eggs brought to us near the Jabbok, which could only have belonged to this bird. In the uplands of Beersheba it is very common, and I frequently have put it up at noon-day. It invariably disappeared into some burrow after a short flight."

From the above notes it will be seen that the Egyptian Eagle-Owl frequents desert and rocky places, and in general habits resembles its congener *Bubo ignavus*. In Egypt it breeds in March or early in April. Mr. E. Cavendish Taylor procured a nest containing two eggs, together with the female bird, on the third Pyramid on the 21st March.

I have in my collection two eggs of this Owl obtained by the late Mr. S. Stafford Allen with the parent birds at Abooroash, Lower Egypt, on the 6th and 12th April respectively. These eggs are considerably smaller than those of the Eagle-Owl, and about the size of the eggs of the Lap Owl. The grain of the shell is much finer than in those of the Eagle-Owl, and one is roundish oval, whereas the other is rather pointed towards the ends.

Gray, in his 'List of Genera of Birds' (1841), gives the genus *Ascalaphia* as established by Geoffr. St.-Hilaire in 1830, and in his 'Genera of Birds' (1845) as in 1837; but the earliest reference I can find, excepting that of Gray, to this genus is that by Lafresnaye in 1844, as above cited.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined the following specimens, besides those in the British Museum:—

E Mus. H. E. Dresser.

a. Egypt (J. H. Gurney).

E Mus. H. B. Tristram.

a. Thebes, March 1858 (H. B. T.).

ATHENE BACTRIANA.

(EASTERN LITTLE OWL.)

- Athene nudipes*, G. R. Gray, Cat. Mamm. &c. Nepal. pres. Hodgs. p. 50 (1846).
Athene bactriana, Hutton, J. As. Soc. Beng. xvi. p. 776 (1847).
Athene (*Surnia*) *noctua* (nec Scop.), Radde, Reis. Süd. Ost-Sib. ii. p. 123.
Athene noctua, var., Dybowski & Parvex, J. f. Orn. 1868, p. 331.
Athene plumipes, Swinhoe, P. Z. S. 1870, p. 448.
Athene persica (nec Vieill.), David, Nouv. Arch. Mus. vii., Bull. p. 4 (1871).
Athene noctua orientalis, Severtzoff, Turk. Jevot. p. 63 (1873).
Athene orientalis, id. op. cit. p. 115 (1873).
? *Carine glaux* (nec Savign.), Dresser, Ibis, 1875, p. 110.
Carine plumipes (Swinhoe), Sharpe, Ibis, 1875, p. 358.
Carine bactriana (Hutton), id. Ibis, 1875, p. 358 (footnote).
Athene plumipes meridionalis, Zarudny, Ois. de la Contrée Transcasp. p. 22 (1885).
Athene noctua plumipes, Taczanowski, Faun. Orn. Sib. Orient. p. 130 (1891).
Ay-chay, *Hay-kis*, Kirghis; *Sirin mochnonogey*, Russian; *Kutruz*, Mahr.

Ad. Athenæ glauci similis, sed pedibus cum digitis dense plumosis.

Adult Male (Chami, January 10th). Resembles the adult of *Athene glaux*, but the legs and toes are densely feathered, whereas in *A. glaux* the legs are sparsely feathered and the toes are bare with only a few scattered hair-like feathers. Total length about 8·6 inches, culmen 1·0, wing 6·45, tail 3·3, tarsus 1·35.

THE present species resembles *Athene glaux*, except that it has the legs and feet densely feathered, and is an eastern representative of that species, ranging from Transcaspia eastward to China, and northward to Dauria.

According to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 749) this Owl is "common in Transcaspia, and found everywhere in ruins, woods, and on steep river-banks. It does not affect the high mountains, but prefers the hot bare plains in the vicinity of water. The plains of Tedgend, the Murghab and Atrek, and the lower part of the Soumbar and Tschandyr suit it best; the fissures on the river-banks offer this Owl a nesting-place all ready, and a refuge during the daytime, and the plains furnish it with an abundance of food." He saw the first young which had left the nest on the 5th June at Merv. The family remains together long after the young have left the nest, and near the Pindé and Murghab oases he saw family-parties early in July.

Dr. Aitchison met with it on the Afghan frontier, Mr. Seeböhm records it (Ibis, 1882, p. 420) from Samarcand, and Dr. Severtzoff from Turkestan. According to Col. Swinhoe (Ibis, 1882, p. 100) it is common at Kandahar, where it commences nidification about the middle of March, and Dr. Duke obtained it near Quetta in October. According to Mr. Scully (Str. Feath.

1876, p. 130) it is common near Kashghar and Yarkand during the whole winter, and he also observed it at Sanju in August. It is, he adds, a permanent resident in the country, and breeds there; it feeds on mice, lizards, and beetles. He observed it flying about freely during the daytime, but was told that it is chiefly nocturnal in its habits. Col. Biddulph also obtained it at Kashghar in March. Mr. Blanford states (Faun. of Brit. Ind., Birds, iii. p. 304) that it "occurs in China, Mongolia, Yarkand, and Afghanistan, is common at Kandahar, and has been obtained at Quetta, and also in some of the valleys near Pesháwar. Two specimens in the British Museum are labelled Tibet." Col. Prjevalski ("B. of Mongolia &c.," in Rowley's Orn. Misc. ii. p. 155) met with it "throughout Mongolia, but only rarely at Koko-nor and Northern Tibet. In Mongolia it frequents the lofty and hilly steppes, which abound with small rodents; whilst in Ala-shan we often met with it in the sagsaulnics on the high but woodless mountains. In the open steppes it keeps to the clayey shores of brooks or rivers, and inhabits also deserted habitations of man, which are rather numerous in Ordos and Ala-shan." According to Mr. Pleske, the brothers Grum-Grzmailo obtained numerous examples at Luktschin-kyr, Chami, Dshigda, and Taschar, and a few at Chun-fy-tschin (in the Gantschoü district) and in the Alps near Ssaning (Tschan-chu, Ljandshasjana Pass). Abbé Armand David states (Ois. de la Chine, p. 37) that it is common in China and Mongolia, and he frequently met with it in winter from Peking to Southern Chensi, but further south it is replaced by *Athene whitelyi*. It has only been twice recorded from Siberia—once by Dr. Radde on the Onon in Dauria, and subsequently by Dybowski and Godlewski, who obtained three specimens in Darasun, where it breeds on the banks of the Onon.

In its habits this Owl closely resembles, as might be supposed, its near ally *Athene glaux*. Col. Prjevalski says that in Mongolia it frequents the open steppes, where it affects the clayey shores of brooks and rivers. "We could often hear, both by night and day," he says, "this Owl's solitary cry, which used to frighten the superstitious Mongols, who believe that these sounds are uttered by the murdered people who formerly dwelt there. Sometimes the Owl would sit during the night on the top of our tent, which usually was pitched in a plain, and would keep on calling so long that we had to frighten it away."

Mr. Zarudny found it breeding in Transcaspia, and took nests in a hollow tree, in a fissure in a ravine, and in the deserted hole of a fox—two containing young birds, and one with eggs. The eggs, four in number, he describes as being spherical in shape, white in colour, and glossy in texture, measuring 3·2 to 3·5 millimetres by 2·6 to 2·9.

As the present species differs from *A. glaux* only in the dense feathering of the legs, and especially of the toes, I have not deemed it necessary to give a figure of it.

The specimen described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimen:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Chami, January 10th, 1890 (*Grum-Grzmailo*).



1
2

J. G. Keulemans del. et lith.

Mintern Bros. imp

SHIKRA.
ACCIPITER BADIUS.

ACCIPITER BADIUS.

(SHIKRA.)

- The Brown Hawk*, Brown, Ill. Zool. p. 6, pl. 3 (1776).
Falco badius, Gmel. Syst. Nat. i. p. 280 (1788, ex Brown).
Falco brownii, Shaw, Gen. Zool. vii. pt. 1, p. 161 (1809).
Sparvius badius (Gm.), Vieill. Nouv. Dict. d'Hist. Nat. x. p. 318 (1817).
Falco dussumieri, Temm. in Pl. Col. i. pls. 308, 336 (1824).
Nisus dussumieri (Temm.), Less. Traité d'Orn. p. 59 (1831).
Astur dussumieri (Temm.), Cuv. Règne Anim. i. p. 332 (1829).
Accipiter dussumieri (Temm.), Sykes, P. Z. S. 1832, p. 79.
Accipiter dukhunensis, Sykes, ut suprà.
Accipiter badius (Gmel.), Strickl. Ann. Nat. Hist. xiii. p. 33 (1844).
Accipiter scutarius, Hodgs. in Gray's Zool. Misc. p. 81 (1844).
Accipiter fringillaroides, Hodgs. ut suprà.
Astur badius (Gm.), Kaup, Isis, 1847, p. 190.
Astur bifasciatus, Peale, U.S. Expl. Exp. p. 70, pl. 20 (1848).
Micronisus badius (Gm.), Bp. Consp. Gen. Av. i. p. 33 (1850).
Nisus badius (Gm.), Bp. Rev. et Mag. de Zool. 1854, p. 538.
Astur cenchroides (*badius*, Gm.?, Heugl. var. *major*), Severtzoff, Turk. Jevotnie, p. 63 (1873).
Micronisus poliopsis, Hume, Str. Feath. ii. p. 325 (1874).
Astur poliopsis (Hume), Sharpe, Cat. B. Brit. Mus. i. p. 110 (1874).
Scelopizias badius (Gm.), Gurney, Ibis, 1875, p. 357.
Scelopizias poliopsis (Hume), Gurney, Ibis, 1875, p. 361.
Accipiter cenchroides (Severtz.), Dresser, Ibis, 1875, p. 104.
Astur (*Micronisus*), sp., Blanford, E. Pers. ii. p. 108 (1876).
Scelopizias badius cenchroides (Severtzoff), Bianchi, Mélang. Biolog. xii. p. 667 (1886).
Accipiter brevipes, St. John, Ibis, 1889, p. 152 (nec Severtzoff).
Micronisus cenchroides (Severtz.), Zarudny, Recherch. Zool. Transcasp. p. 44 (1890).
Kyrgui, Tekke (*fide* Zarudny); *Shikra* ♀, *Chipka* or *Chippak* ♂, H.; *Kathia* ♀, *Tunna* ♂, Nepal; *Jali dega*, Tel.; *Chinna wallur*, Tam.; *Ukussa*, *Kurula goya*, Cing.; *Ting-Kyi*, Lepcha; *U-cham*, Bhot.; *Thane*, Burm. (*fide* Blanford).

Figuræ notabiles.

Brown, Ill. Zool. pl. iii.; Temm. Pl. Col. 308, 336; Peale, U.S. Expl. Exp. pl. xx.

Ad. suprà cinerascens, collo postico rufescente, torque collari indistinctè formante: remigibus saturatè cinereis versus apicem nigricantibus, in pogonio interno ad basin albidis nigro-fusco transfasciatis: rectricibus mediis cinereis immaculatis, reliquis nigro-fusco transfasciatis; capitis lateribus pallidi-

oribus et rufescente tinctis: gulâ albidâ: corpore subtùs rufo et albo transfasciato: abdomine imo pallidiore, crisso et subcaudalibus albidis vix cervino tinctis: rostro fusco-plumbeo, cerâ flavâ: iride saturatè flavâ.

Adult Male (India). Upper parts ashy grey, with a somewhat irregular rufescent collar on the hind neck; quills dark ashy grey, becoming blackish on the terminal portion, the inner web on the basal portion buffy white with broad blackish bars; middle tail-feathers ashy grey, unbarred; the remaining rectrices with five or six broad blackish bands, but the outermost ones are only obsoletely barred on the basal portion of the inner web; sides of the head paler and tinged with rufous; throat buffy white; underparts rusty red, narrowly barred with white, becoming paler on the lower abdomen; under tail-coverts and vent white with a tinge of buff: bill dusky black; cere yellow; iris yellow. Total length about 12 inches, gape 0·7, wing 7·2, tail 5·7, tarsus 2·0.

Adult Male (Astrabad). Resembles the male above described, but is larger, and paler both on the upper and under parts, and the outer tail-feathers are distinctly barred. Total length about 14 inches, gape 0·7, wing 7·5, tail 6·3, tarsus 2·0.

The female is, as a rule, browner than the male on the upper parts, and deeper in tinge of colour on the underparts.

Young (*vide* Blanford). Brown above, the feathers at first with rufous edges, their white bars conspicuous on the head and nape; all the tail-feathers are barred, the bars on the outer feathers narrower and rather more numerous; the lower parts are white, with large elongate brown spots, largest on the breast, and there is generally a median brown spot on the throat.

THE range of the present species of Sparrow-Hawk extends from Transcaspia through Persia and Turkestan to India, as far east as Southern China, and in the south to Ceylon. The bird found in Transcaspia and Turkestan, eastward to Baluchistan, was described by Severtzoff as a distinct species under the name of *A. cenchroides*, and is, in fact, a large, rather pale, form, but I cannot look on it as specifically separable from the Indian bird. I have one specimen obtained by Dr. G. Radde at Astrabad on the 24th April, and this gentleman states (*Vög. Transcasp.* p. 11) that he found it in all parts of Transcaspia wherever there were trees or bushes, and also on the banks of watercourses in the gardens. He observed it at Germab on the 16th March, and believes that a few remain over the winter there; and, oddly enough, it was met with on the shores of the lagoons of the Molla-kary, where only the tamarisk grows. He found it breeding in Kulkulau and Sary-jasy, and saw young birds early in July at Neu-Serachs. Mr. Zarudny states (*Recherch. Zool. Transcasp.* p. 44) that it is very common in the woods near the Tedgend and Murghab, but rare, at least in summer, in the gardens of the oases of Merv and Pindé, and, as a rule, avoids the vicinity of human habitations. He did not observe it in the tamarisk-thickets on the Atrek, Soumbar, or Tschandyr, but it breeds in the woods on the mountains in the vicinity of these rivers. Dr. Severtzoff obtained it near Tashkent, and records it (*l. c.*) as met with during migration in Turkestan, at Aulje-ata and Chimkent; and, according to the Kirghis, it occurs in the forests near the Syr-Darja, Chu, and Talass. Sir Oliver St. John obtained it at Quetta; and Mr. Blanford records it as found in Baluchistan, Sind, and the Punjab, and states (*Faun. Brit. Ind., Birds*, iii. p. 399) that it is "resident throughout India, Burma, and Ceylon, ascending the hills of the Indian Peninsula to their summits, and breeding

on the Himalayas up to about 5000 feet. This Hawk ranges westwards into Southern Persia, north into Central Asia, and eastwards to Siam, Cambodia, and Southern China. At Gilgit, according to Scully, the Shikra is migratory, passing northwards in April, and southwards in September.

"The Burmese Shikra is a well-marked race, and has been distinguished as *A. poliopsis*. It is slightly larger on an average, and the male is paler grey above, without any rufescent collar, with the sides of the head greyer, and the median gular stripe faint or wanting. The bars on the lower plumage of adult males, too, are deeper rufous and somewhat broader. But all these peculiarities are to be found in some Southern and Western Indian birds, though not often in the same individual."

In Ceylon, according to Col. Legge (B. of Ceylon, p. 24), it is "distributed throughout the island, extending into and resident in most parts of the Kandyan Province. On the Nuwara Elliya plateau I have not observed it; but it is no doubt a visitant to that elevated region during the dry season. It is not uncommon on the Fort MacDonald patnas, and I have procured it on Namooni-Kuli Mountain, near Badulla, which has an elevation of more than 6000 feet; it is also met with in Dimbulla and the Knuckles district, so that it may be said generally to affect the mountain-zone. In the interior of the lowlands it is resident; and during the north-east monsoon it is common in the cultivated districts round the sea-coast, taking up its abode in the vicinity of human habitations. It is fond of establishing itself on cliffs, such as those at Trincomalie, and is frequently seen about the ramparts at Galle and Jaffna. In the early part of May it retires into the interior to breed, and is not seen about its maritime haunts until October. In spite of this local migration to the sea-coast, the Shikra may be found throughout the year, in spots suitable to its habits, in most of the inland districts. In the Eastern Province I found it tolerably frequent in October, but scarcely met with it at all during two trips to the south-eastern forest districts. In the Western Province it is an inhabitant of the cocoa-nut districts bordering the sea-coast, retiring for the most part into the interior, as is the case on the east coast, during the south-west monsoon."

In general habits the Shikra appears to resemble our European Sparrow-Hawk very closely, and, like that bird, is extremely active and courageous, and will attack birds larger than itself. It frequents all parts of the country where it can obtain food, excepting, perhaps, the dense forest, and is frequently to be seen in the vicinity of human dwellings, where it frequently takes toll from the poultry-yards. It feeds, however, as a rule, on mice, insects, and small reptiles, especially on lizards, but will, according to Dr. Jerdon, attack young Peafowl and small Herons. According to Col. Legge (B. of Ceylon, p. 25) it is a "persistent tormentor of both the Common and the Carrion-Crow in Ceylon, and may often be seen pursuing them high in the air, darting at them from above and beneath, much to the discomfort of the 'Corbies,' who usually escape by a sudden swoop into the trees below. Its flight is a steady, straight-on-end movement, performed with quick beatings of the wings; but it sometimes soars to a considerable height, making quick circles, and then suddenly swoops down, alighting in an adjacent tree. It is a very noisy bird, making its shrill two-note whistle or scream heard for some distance, and furnishing a capital sound for the clever imitative powers of the Green Bulbul (*Phyllornis jerdoni*)."

According to Mr. Hume, the Shikra breeds pretty well all over the plains of India, and in

the Himalayas up to a height of 5000 feet, or possibly more. The nest is somewhat loosely built of small sticks and lined with fine roots, and is usually placed high up in the fork of a tree, or in a parasitical shrub that is frequently found growing on mango-trees. The eggs, usually four in number, and occasionally even five, are oval in shape, and elongated rather than broad and stout, in colour of a delicate bluish white, occasionally, but seldom, marked with small specks of reddish brown, averaging in size 1·55 by 1·22 inch. Mr. Zarudny, who found it nesting on the Murghab, in Transcaspia, describes the eggs as occasionally bluish white, but usually whitish spotted and blotched with brown and reddish brown. I have several eggs in my collection received from India, all of which are uniform bluish white, without any spots or markings.

The specimens figured are the two males above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Astrabad, April 24th (*Dr. G. Radde*). *b*, ♂. India (*A. O. Hume*). *c*, ♂. Southern India (*Whitely*).

MILVUS MELANOTIS.

(BLACK-EARED KITE.)

Accipiter milvus, Pall. Zoogr. Ross.-As. i. p. 356 (1811, partim).

Milvus melanotis, Temm. & Schleg. Faun. Jap., Aves, p. 14, pls. v., v. B (1850).

Milvus niger, var. *melanotis*, Schrenck, Reis. Amurl., Vög. p. 234 (1860).

Milvus niger (nec Bp.), Radde, Reis. im Süd. Ost-Sib. ii. p. 135, pl. i. fig. 1 (1863).

Milvus glaucopus, Eversm. Hist. Nat. Orenb. iii. p. 39 (1868).

Milvus major, Hume, Rough Notes, ii. p. 326 (1870).

Milvus govinda (nec Sykes), Swinhoe, P. Z. S. 1871, p. 341.

Milvus ater, β . *glaucopus*, Severtzoff, J. f. Orn. 1875, p. 170.

Korshun tschernouchey, Russ.; *Achak-Koyruk-sa*, *Mizan-sa*, Turki; *Charabsyr*, Burjat; *Pisskeh*, Giljak; *Pitschu*, on the Lower Ussuri; *Chiutscha*, on the Upper Ussuri; *Tombi*, Japanese.

Figuræ notabiles.

Temm. & Schleg. Faun. Jap., Aves, pls. v., v. B; Radde, Reis. im Süd. Ost-Sib. pl. i. fig. 1.

Ad. M. migranti similis, sed capite et collo rufescenti-fusco, nec albido, nigro-striato, regione parotica nigricante; corpore subtus pallidior quam in *M. govinda*: remigibus ad basin in pogonio interno albis.

Adult Male (Tunka, May 10th). Resembles *Milvus migrans*, but differs in having the feathers on the head and neck with rufous-brown and not with white margins, in having the ear-coverts blackish, and the underparts paler and less rufous in tinge, and it is also readily distinguished in having the inner web of the quills white at the base, making a conspicuous white patch on the under surface of the wing: bill bluish; cere yellowish white; iris hazel-brown; legs dull china-white; claws blackish. Total length about 25 inches, culmen 1·7, gape 1·75, wing 19·3, tail 13·0, tarsus 2·3.

THE present species has an extensive range, being found as far west as the Government of Perm in Russia, and as far east as the Pacific Ocean. It is also found in India, and has been met with in Siberia as far north as 64° N. lat. According to Prof. Menzbier it breeds in the Ural and on the Serebrianka River in the Perm Government, and is tolerably common in the Kirghis Steppes. According to Mr. Zarudny it is a somewhat rare migrant in Transcaspia, but must occasionally remain there to breed, as is evident by his having obtained a young bird in 1884. He remarks that he frequently saw it at Ahal-Téké. Messrs. Radde and Walter do not appear to have met with it in Transcaspia.

I do not find it recorded as having been met with in Persia, but it is found in Turkestan. Dr. Severtzoff, however, appeared to be doubtful if the birds obtained by him were true *M. melanotis*, as he informed me that they seemed to him to be varieties of *M. migrans* with somewhat broader dark ear-coverts. Mr. Scully, however, certainly met with it in Eastern Turkestan, and states (Orn. E. Turk. p. 87) that this species was the only Kite which he observed in Eastern Turkestan, where it is tolerably common, especially on the plains. It was

first noticed near Yarkand in April, and the last specimen was observed about the end of August. The natives say that it is a permanent resident, but he never observed any during the winter, and believes that they arrive about March or April. Col. Biddulph obtained it on the Karakash in October at an elevation of 16,500 feet, and noticed a few in the summer in Kashghar.

According to Mr. Blanford (Faun. Brit. Ind., Birds, iii. p. 378) this Kite is "a migratory bird in India, appearing in the Peninsula as far south as Bombay and the Godávari Valley, and in Burma as far as Rangoon, in the cold season. I obtained one near Badrachellam on the Godávari as late as April."

Mr. Ball records it from Chutia Nagpur, and also obtained it in Denkenal (Orissa) and in Sonpur and Kalahandi (Sambalpur). Towards the southern parts of Sambalpur and Raipur he frequently saw it, and in places it occurred apparently to the total exclusion of *Milvus govinda*. Mr. Inglis (Str. Feath. ix. p. 245) found it very common during the cold weather in North-eastern Cachar, arriving early in September and leaving about May.

According to Mr. Oates (B. of Brit. Burmah, ii. p. 204) it is "common in the southern parts of Pegu, in the large grass-plains between the Pegu and Sittang Rivers, from October to February, and probably till later." Severtzoff records it from the Pamirs, and, according to Prjevalski (Rowley's Orn. Misc. ii. p. 152), "throughout Mongolia, Kan-su, and about Koko-nor it is common, and in some localities even extremely numerous. We found it in the wild deserts of Ala-shan, as well as in the alpine regions of the Kan-su mountains, where it ascends to an altitude of 12,000 feet above the sea-level. . . ."

"In S.E. Mongolia the Kites arrive about the middle of March; in April they commence repairing or building their nests, which are always situated in trees, and not on rocks. In Ala-shan they breed even on the low saccaulnic bushes. It winters in great numbers about Pekin, but in the higher-situated Kolgan it is only a summer visitant. According to my companions' observations, the first Kites appeared at Kolgan on the 16th February in 1872."

In China it appears to be common and very generally distributed. Père Armand David observed it about Pekin in large numbers throughout the year. Swinhoe records it from Chefoo; Mr. Seebohm from Central China; and Mr. Styan refers to it (Ibis, 1887, p. 234) as being "extremely abundant all over the cultivated country near Foochow. They begin to breed about February, and nest in clumps of pines near villages."

Referring to the presence of this Kite on the Lower Yangtse Basin, Mr. Styan says (Ibis, 1891, p. 490) that it is "very abundant. I am inclined to think an annual migration takes place, and they certainly shift their quarters. At Shanghai few or none are to be seen in summer, but numbers arrive in September or October and remain all the winter. In 1883 the first one I saw return was on October 11th; on the following day a party of twelve appeared, circled over the river a few minutes, and then disappeared to the S.W. At Chefoo one year throughout August only one or two solitary Kites were about, but on the 29th a large number appeared on the cliffs and shore. At Kiukiang they remain throughout the year." Throughout Japan it is, according to Messrs. Blakiston and Pryer, very numerous, as also at Eturop Island, one of the Kuriles, during the fishing-season.

Kalenowski records it as common in the Corea at all seasons of the year; and Mr. Campbell states (Ibis, 1892, p. 244) that it is a constant resident at Söul. It ranges north into Siberia.

According to Pallas this Kite had not then been met with east of the Lena River; but

Middendorff saw it near Amginskaja Sloboda in about 61° N. lat., and in the Stanowoi Mountains, but lost sight of it on the coast, and he did not obtain any specimens. Von Schrenck records it as having been met with throughout the Amoor country to the mouth of the Amoor River. He obtained one on the Kamr River, near the Nikolaieffsk Post, and procured eggs at the mouth of the Amoor on the 6th (18th) May. Maack records it as being found on the 29th April at Jakutsk, and he obtained a specimen at Wilni in 64° N. lat. According to Radde, at Irkutsk it nests every year on high pines and birches in the gardens which are situated on the Uschakofka, and breeds in company with Crows; he likewise found it common in the lonely forests bordering Lake Baikal, and equally so in the bare elevated steppes of Dauria, and he observes that it does not appear to occur at a higher altitude than 5000 feet. It arrived late in March and left again in September. He obtained its eggs near the Tarei-nor in May.

Godlewski (Tacz. Orn. Sib. Orient. p. 48) states that he "found it throughout the Government of Irkutsk, in Dauria, on the Amoor, in the Ussuri country, and on the coast of the Sea of Japan, everywhere very common. On the spring and autumn migration parties of more than ten individuals may be seen perched on a tree or hedge, and one day I killed three at a shot. On passage it is, as a rule, less shy, but ordinarily when on the wing it will not approach within gunshot. It is, however, partial to the society of man, and will catch pieces of meat when thrown to it in the air, but when not thrown very high it will dart down and immediately return to a more convenient altitude. In 1867 they appeared in Darasun on the 3rd April."

It ranges also far south, and has been recorded by Mr. A. H. Everett (Ibis, 1890, p. 465) from Labuan Island, Borneo; but Mr. Whitehead does not appear to have met with it in Northern Borneo.

In its habits this Kite is exceedingly fearless and tame when found in the vicinity of human habitations, but, according to Mr. Oates, it is shy in other localities, keeping to the jungles. In the towns and villages it acts, like *Milvus govinda*, as a scavenger and devours all sorts of refuse. Col. Prjevalski speaks of it as being more daring than the European species, and puts in an appearance wherever a tent is erected, stealing anything that it can get hold of. "On one occasion," he says, "in swooping down on a piece of meat, it touched with its wings the man's head who was sitting close by it; and when an antelope or some other animal was killed, the flesh of which was usually hung up for drying in the sun, we could only save it from the Kites by watching with a gun. Once, on a similar occasion, I killed nine specimens in succession; but the remaining birds still kept flying above the meat, trying to steal a piece lying a little out of the way. In the case of an animal left (after being killed) on the steppes, the Kites and Ravens were the first birds to assemble; and they usually thus indicated to the others where the carcass was lying."

According to Mr. Godlewski, "this Kite feeds on dead fish, carrion, and different remains of food which have been thrown on the rubbish-heaps, and puts in an appearance regularly, almost taking the refuse from the hands of those who throw it out, whilst on the wing without touching the ground. One day during the haymaking-season I was witness to the following: a peasant was cutting up a sheep destined for the dinner of his companions, and had cut open the animal and put beside him the intestines, when a Kite unexpectedly slipped down, snapped up a considerable portion, and made his escape with it."

Mr. Styan remarks (*l. c.*) that these Kites have certain favourite roosting-places, where they

collect for the night. Out of a group of fine old trees at Kiukiang he put up fully thirty individuals. At Hankow, one night when passing in a sanpan over the flooded plain among the willows that border the river, he disturbed a score out of two or three adjacent trees, and a few nights later ten of them rose from the same place; the trees had nothing to distinguish them from hundreds of others growing around. These Kites also congregate on the ledges of the river-cliffs, which they share with Peregrines and Cormorants.

This Kite appears to breed in most parts of its range. Professor Menzbier informs me that it breeds in the Governments of Perm, Ufa, and Orenburg. According to Mr. Zarudny it nests occasionally in Transcaspia; Mr. Scully found it breeding in Kashgharia; Mr. Hume says that it breeds in the Himalayas; and Col. Prjevalski found it breeding in Mongolia, and it also breeds in China, Japan, and Siberia.

Mr. Scully says (*l. c.*) that in Kashgharia, in the plains at all events, the nest seems always to be placed on high trees. On the 27th April he found a nest, about ten miles or so east of Yarkand, in a clump of poplar trees. This nest, which contained one young bird, was in the form of a rude sort of platform, made up of sticks and twigs, about two feet square, placed on three strong horizontally growing branches about thirty feet above the ground.

Godlewski states (*l. c.*) that in Darasun he "found a nest on the 2nd May which contained two fresh eggs, and on the 5th May another in which the eggs were incubated, and on the 5th of June we found eggs about half incubated. The female sits close, but when once scared off she flies far away directly anyone approaches, cries without ceasing, and returns to the nest directly the intruder leaves. When the eggs are near hatching the female will not willingly leave the nest, even when the tree is struck. The nest is placed at different altitudes in a tree, usually about halfway up. It is lined with various rags collected from the rubbish-heaps."

Mr. Hume says (Nests and Eggs of Ind. Birds, iii. p. 176) that in the Himalayas this Kite deposits its eggs from January to the beginning of May, and builds a large nest of sticks, which is placed on a tree. The eggs he describes as closely resembling those of *Milvus govinda*, but considerably larger, measuring from 2.23 to 2.43 inches in length, and from 1.75 to 1.88 in breadth.

The present species resembles *Milvus govinda* much more closely than it does *M. migrans* in coloration, and is in fact a large form of that species, differing in having a larger amount of white on the inner webs of the quills near the base, forming a white patch below the wing as in the Buzzards; and, as pointed out by Mr. Blanford, the abdomen and under tail-coverts are, as a rule, much paler, but, he adds, some specimens appear almost to form a passage between the two. Furthermore, I may remark that in *M. melanotis* the head is tawny or rufous, streaked with black, whereas in *M. migrans* it is whitish, streaked with black. As the differences between the two species are readily discerned I have not deemed it necessary to figure the present species.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Tunka, Siberia, May 10th, 1856 (*Dr. G. Radde*). *b*, ♂ *ad.* E. Siberia, May 11th, 1856 (*Dr. G. Radde*). *c*, *immature*. Yokohama, Japan, April 10th, 1880 (*Owston*).

FALCO MILVIPES.

(SHANGHAR FALCON.)

Falco milvipes, Hodgson, in Gray's Zool. Misc. p. 81 (1844, descr. nullâ).

Falco milvipes, Hodgs., Jerdon, Ibis, 1871, p. 240.

Falco hendersoni, Hume, Ibis, 1871, p. 407.

Hierofalco saker, Sharpe, Cat. B. Brit. Mus. i. p. 417 (1874, partim).

Hierofalco hendersoni, Hume, Stray Feathers, vii. p. 327 (1878).

Falco sacer, Dresser, B. of Eur. vi. p. 59 (1879, partim).

Hierofalco milvipes (Hodgs.), Sharpe, 2nd Yark. Miss., Aves, p. 11 (1891).

Gennaia hendersoni (Hume), Menzbier, Orn. d. Turkestan, part iii. p. 294 (1891).

? *Gennaia saker gurneyi*, id. op. cit. p. 297 (1891).

Balobau, Russian; *Chark*, Persian; *Uetälgi*, Persian (*fide* Radde); *Aitalgu*, Turki (*fide* Scully).

Figureæ notabiles.

Hume & Henders. Lahore to Yarkand, pl. i.; Dresser, B. of Europe, vi. pl. ccclxxvii.

Ad. suprâ rufescente, plumis fusco transfasciatis: caudâ rufescente, distinctè fusco transfasciatâ, nec guttatâ: corpore subtùs cervino-albido, conspicuè nigro-fusco notato.

Adult (Tarsus). Differs from *Falco sacer* in having the upper parts rufous, conspicuously barred with blackish brown, and the tail is also similarly, distinctly, barred, and not marked with spots as in *F. sacer*: bill bluish, black at the tip; cere, legs, and feet yellow.

Obs. According to Mr. Blanford (Faun. Brit. Ind., Birds, iii. p. 422), "in young birds the rufous bars are irregular and ill-marked, and those on the tail more or less imperfect. In this stage *F. milvipes* is very like *F. cherrug*, but may generally be distinguished by some of the bars going quite across the tail-feathers. A nestling from Tibet in the Hume collection, attributed to this species, has, however, the tail absolutely unbarred."

MR. HODGSON appears to have been the first to give this form the name of *Falco milvipes*, but it was not generally acknowledged as separable from *F. sacer*. In 1871 Mr. A. O. Hume again described it as distinct, under the name of *Falco hendersoni*, from a single specimen, a male, obtained by Dr. Henderson during the Yarkand Expedition on the 14th September, 1870, at Kitchik Yílák, in undulating country just north of the Sanju Pass, and forty miles from Sanju, where the plains of Yarkand may be said to commence. There were, Dr. Henderson remarks, no trees or bushes about, but the climate was comparatively moist, and there was an abundance of short grass, on the upper borders of which thousands of the Tibetan Snow-Pheasant (*Tetrao-gallus tibetanus*) were observed. Other Falcons, apparently of this species, were noticed in the immediate neighbourhood, but it was not seen elsewhere, and only the one specimen was

obtained. Mr. J. H. Gurney considered this form to be a very old stage of plumage of *Falco sacer*, and I, when I wrote the article in the 'Birds of Europe' on that species, held the same opinion and figured it as such. Since then, however, having had an opportunity of examining a larger series, I have modified my views, and think that it should be recognized as a fairly distinct species; and Mr. Blanford, who has gone carefully into the question, is of the same opinion. This gentleman, in the recently published volume on the 'Birds of India' (Faun. Brit. Ind., Birds, iii. p. 422), gives the distribution as "Tibet and part of Mongolia. A few birds have been obtained in the Punjab at times, and one by Sir O. St. John at Quetta." Its range, however, appears to me to be much more extensive than given by Mr. Blanford, as in the Norwich Museum there is a specimen from Athens, and another, the one figured in the 'Birds of Europe,' from Tarsus; and one obtained by Dr. G. Radde near Tiflis, in the Caucasus, on the 16th March, 1868, appears to be undoubtedly referable to this form, as Dr. Radde remarks (Orn. Cauc. p. 70) that it is certainly an old bird and has the tail distinctly barred and not spotted.

Mr. Zarudny and Messrs. Radde and Walter record the occurrence of a Falcon, under the name of *Falco sacer*, as occurring in Transcaspia; but as the latter remark that the feathers on the upper parts are brownish and not grey, and have broad lighter edges, it seems most probable that the bird obtained by them was *Falco milvipes*. They state (Vög. Transcasp. p. 5) that "in the western portion of the district visited by us it was much rarer than in the south-eastern, where Walter found it the most numerous species of Raptor, breeding all along the new Afghan frontier. Its nesting-places were the steep portions of the clay-sandy hillocks in the desert and the steep banks of the river, and even in the sides of ruined wells, as, for instance, at Geletschesme, east of the Murghab. On the 5th May, 1887, two young birds, nearly full-grown, but with much down still in the plumage, were taken out of a nest placed on a conglomerate point of a precipice at Kuschik, near Tschesme-i-bid. The nest was very scantily formed. These Falcons doubtless feed, in this district, chiefly on the numerous *Meriones* and *Spermophilus* which inhabit these desert places."

Col. Prjevalski met with it in Mongolia, and remarks (Rowley's Orn. Misc. ii. p. 149) that he nowhere observed or obtained *F. sacer* in the districts visited by him, but only *F. milvipes*. "We only obtained," he writes, "four specimens (two males and two females), of which three (two males and one female) completely correspond with Hume's description, with only insignificant differences. The second female, which is rather younger than the three former specimens (being distinguished by having blue and not yellow legs), differs from them by the absence of a fully striped tail, as only incomplete reddish-yellow bands are perceptible on the inner webs of the tail-feathers, whilst the outer webs are marked with spots of the same colour as the bands. Again, the yellow streaks of the female *F. hendersoni* are replaced in the present specimen by spots of the same colour. The breast has large dark brown spots, just like in true *F. sacer*, whilst in *F. hendersoni*, as also in our three specimens, the breast is milk-white, marked with narrow triangular small spots. The bill is black at the point and bluish at the base, and has only on the lower mandible a yellow mark, which colour is predominant on both mandibles in our three specimens."

According to Professor Menzbier (Orn. Turk. p. 297), "Dr. Severtzoff obtained a very adult female in the Aläi Mountains at the entrance of the Kizil-Arte defile, and remarks that he

observed one of these Falcons on the Pamir plateau. The stomach of the bird obtained was filled with field-mice. Another specimen, a young female assuming the second plumage, was obtained on the 9th August near the Lake Sairam-Kul, north of Kuldja, at an altitude of about 7000 feet. Dr. Severtzoff adds that he was informed that this Falcon has been met with on the Youldouz plateau at an altitude of 9000 to 10,000 feet."

It was met with by Col. Prjevalski wherever they went from Kiachta to the sources of the Yangtze-kiang, but was most numerous in the Zachar country and about Koko-nor. It is probable that the Falcon referred to by Père Armand David under the name of *Falco sacer* (Ois. d. l. Chine, p. 33), as having been "frequently met with by him in Mongolia, and at Peking, Chensi, and in Setchuan," is referable to the present species; and Taczanowski informed Prof. Menzbier that one was obtained in Corea on the 6th January, 1887.

Mr. J. H. Gurney, who has carefully examined for me the specimens in the Norwich Museum, informs me that "the nearly adult female labelled Tientsin, China (*R. Swinhoe*), has the back plain and the tail not barred, there being no rufous in the plumage, and it is altogether much more like plate 376 in the 'Birds of Europe' than plate 377.

"Our skin from Athens, sent by Parzudaki, of Paris, is evidently *F. milvipes*, and has been entered as such by my father. Besides this bird and the male from Tarsus, I do not think that we have any *F. milvipes*, though it is true we have two others which are rather doubtful—namely, a female from Western Asia with a barred tail, but without any cross-barring on the back or wing-coverts, which are, however, very rufous; and a nearly adult male labelled 'Hamedabad, Bombay (*S. V. Doig*),' which is very rufous on the back and wing-coverts, but has the tail decidedly more spotted than barred."

I have not been able to go to Norwich to examine these birds, but it appears to me that both these last-named specimens are referable to *F. milvipes*.

In habits the Shanghar Falcon appears to closely resemble *F. sacer*, and also frequents the same localities. During the winter it is said to prey chiefly on Alpine hares, but also feeds on birds of various kinds. Col. Prjevalski says (*l. c.*) that it attacks *Syrrhaptes paradoxus*, usually when these birds are drinking, and on one occasion when they had started a hare one of these Falcons followed it, swooping and striking it with its beak; on receiving every blow the hare stopped, and then resumed its flight, until out of sight, and they did not therefore see the termination of the pursuit. He adds that, so far as he could ascertain, the Mongols and Tanguts do not train these Falcons for sporting purposes. Dr. Scully says that competent authorities in such matters in Kashgharia positively assert that the present species is the female of the Shanghar (which is the most highly prized of all the Falcons), and is not prized, being considered hardly worth training.

As above stated, Messrs. Radde and Walter found it breeding on the Afghan frontier, but do not give any description of its nest or eggs.

As this Falcon was figured in the 'Birds of Europe' as a very old Saker (plate 377), I have not deemed it necessary to figure it again.

I do not possess a specimen of this Falcon, but those which I have examined are as follows:—

E Mus. Brit.

a, *ad.* Quetta (*Sir O. St. John*). *b*, ♂ *ad.* Kitchik Yílák, Yarkand, September 14th (*Dr. G. Henderson*).
c, ♀ *jun.* Yarkand, February 26th, 1875 (*Dr. Scully*). *d*, *ad.* Ladak (*Strachey*). *e*, *jun.* N.W. Himalayas
(*Capt. Pinwill*). *f*, ♀ *ad.* Umballa, February 1867 (*Dr. Scott*). *g*, *ad.* Nepal (*B. H. Hodgson*). *h*, *i*, *k*,
juv. Nepal (*B. H. Hodgson*). *l*, *ad.* Tibet, March 1876; *m*, *juv.* Tibet, May 1875 (*Mandelli*). *n*, ♀ *ad.*
Koko-nor (*Col. Prjevalski*).



3
SACRED IBIS
IBIS ÆTHIOPICA

Mintern Bros. inc.

IBIS ÆTHIOPICA.

(SACRED IBIS.)

- Ægyptian Ibis*, Edwards, Nat. Hist. Birds, ii. p. 105, pl. 105 (bill only) (1747).
Tantalus æthiopicus, Lath. Ind. Orn. ii. p. 706. no. 12 (1790).
Numenius ibis (nec Linn.), Cuv. Ann. Mus. hist. nat. Paris, iv. p. 116, pl. 53 (1804).
Ibis religiosa, Cuv. Règne Anim. i. p. 483 (1817).
Ibis egretta, Temm. Man. d'Orn. iv. p. 391, footnote (1840).
Threskiornis æthiopica (Lath.), Gray, App. to List of Genera of Birds, p. 13 (1842).
Geronticus æthiopicus (Lath.), Gray, Genera of B. iii. p. 566 (1847).
Ibis æthiopica (Lath.), Reichenb. Natürl. Syst. p. xiv, tab. 142. figs. 635, 636 (1850).
Threskiornis æthiopica (Lath.), Hartlaub, J. f. O. 1854, p. 295.
Threskiornis egretta (Temm.), id. ut suprâ.
Thereschiornis religiosa (Savigny), Brehm, Vogelfang, p. 299 (1855).
Thereschiornis minor, id. ut suprâ (1855).
Thereshiornis alba, id. ut suprâ (1855).
Ibis æthiopica (Lath.), Hartlaub, J. f. O. 1855, p. 361.
Threskiornis religiosus (Cuv.), Cassin, Proc. Acad. Nat. Sc. Philad. 1859, p. 174.
Geronticus religiosus (Cuv.), Heine, J. f. O. 1860, p. 201.
Ibis sacer, Böhm, J. f. O. 1886, p. 432.
Naädje, *Nedje-abrat*, *Abu-Mindjel*, *Abu-Qadum*, Arabic; *Abu-Hannes*, Egyptian; *Gagano*, Amharisch; *Deleca*, in Mossamedes; *Schoorstein-veger*, Dutch in South Africa.

Figuræ notabiles.

Edwards, *l. c.*; Savigny, Hist. nat. etc. de l'Ibis, pls. i., ii.; id. Descr. de l'Égypte, Oiseaux, tab. vii. fig. 1; Bree, B. of Eur. iv. pl. to p. 45; Sclater, P. Z. S. 1870, p. 382, fig. 2; id. Ibis, 1878, pl. xii. (young bird and egg).

Ad. alba: capite et collo nudis, fumoso-nigris: remigibus albis, in apicibus nigris viridi resplendentibus: remigibus intimis cum scapularibus in basi canescentibus, a medio ad apicem nigris purpureo nitentibus, pogoniis in apice diffractis, radiis perelongatis, nutantibus, caudam obtegentibus: cute subalari nudâ incarnato-rubrâ: rostro et pedibus nigris: iride fuscâ.

Juv. rostro valde brevior et robusto, vix curvato, fusco-incarnato: corpore, remigibus et rectricibus albidis, secundariis intimis brevioribus, in parte apicali vix diffractis et griseo-fuscis: capite et collo plumis albidis tectis: pileo, collo postico et capitis lateribus plumis ad basin albidis et versus apicem fumoso-fuscis.

Adult Male (Transvaal, May). Head and neck bare, dull black in colour; plumage generally pure white, except the tips of the primaries and outer secondaries, which are black, richly glossed with metallic green; inner secondaries elongated, lax, on the basal portion bluish grey, and on the terminal portion

black with rich purple reflections, forming a plume which covers the tail; a bare patch under the wing rich fleshy red: beak and legs black; iris dark brown. Total length about 30 inches, culmen 7·0, wing 15·4, tail 6·3, tarsus 4·0.

Adult Female (Khartoum, June). Resembles the male, but the plumes covering the tail are somewhat duller in colour. Culmen 5·75 inches, wing 14·0, tail 6·0, tarsus 3·5.

Immature (Transvaal). Head and neck covered with short black and white feathers; inner secondaries shorter than in the adult, and duller in colour.

Young (*vide* Heuglin). "Bill short and stout, but slightly curved, fleshy brown in colour, general plumage dirty white; head and neck covered with whitish feathers; sides of the head, crown, hind neck, and sides of the neck smoky brown, with white bases to the feathers; ends of the tertials dirty greyish brown, the feathers not lax and elongated."

THE Sacred Ibis inhabits the greater part of Africa as far south as the Cape of Good Hope, and belonging strictly to the Ethiopian Region can only be included as a straggler within the limits of the area of which I am treating.

It has been stated by several authors to have occurred in Europe north of the Mediterranean. Pallas (*Zoog. R.-A.* ii. p. 165) includes, under the name of *Numenius ibis*, an Ibis as having been met with on the Black Sea and Caspian, though of rare occurrence. The description he gave is that of the African Wood-Ibis, which does not occur further north than Upper Egypt; but his citations show that the Sacred Ibis was the species to which he refers, and both Von Nordmann and Dr. Radde believe that it was so, while the latter says that the Mahometans in the Talysch Valley know this bird and have a local name for it, from which he infers that it must at some time have occurred there. Temminck in 1840 (*l. c.*) records it as having been observed and killed in the Morea, and it is stated to have occurred in Turkey, but no recent observers have met with it in those parts. Savigny states that in August or September 1800 he saw it at Damietta, on Lake Menzaleh, and not far from Kafs el Saïda, on the left bank of the Nile; but later authors on Egyptian ornithology speak of it as being very rare in Egypt. According to Von Heuglin one, which he himself examined, was shot at Qata, on the Delta, in December 1864, at a shooting-party of Prince Halim-Bascha, but he remarks that it is a rare and accidental visitor to Egypt. Mr. E. Cavendish Taylor records (*Ibis*, 1878, p. 372) the fact that one was shot near Lake Menzaleh in November 1877, and I understand that this specimen passed into the possession of Capt. Shelley and is now in the British Museum. There is nothing to show that it was ever much more than a straggler to Egypt, occurring there towards the end of the summer, yearly, according to Capt. Shelley and Mr. E. Cavendish Taylor, and the thousands of mummies referred to by travellers were probably the remains of birds taken alive in the upper country and kept in the precincts of the temples. Von Heuglin says that during his sojourn in the provinces of Batn-el-Hadjar, Sukôt, and Dongola in July and August 1851 he obtained many old birds, and young ones alive in down, which had been hatched there, and he thinks that it nests numerously northwards to Wady-Halfa. Hartmann met with it as far as Der, quite close to the borders of Upper Egypt, but rarely further north. "In Central and Southern Nubia, Takah, Senaar, and Kordofan," he writes, "the Sacred Ibis is only a migrant. Coming from the south it moves on by degrees as the summer rains set in; thus it appears in Southern Senaar already in May, at Khartoum early in June, at Berber and Dongola rather later. It follows closely on the track of

Ciconia abdimii on its wanderings. After the breeding-season, in December and January, it migrates south again. In January and February I found it in large flocks on Lake Tana and near the mouth of the Sobat, and in August and September in pairs in Dahlak Archipelago." Vierthaler found it nesting on the White Nile, and it also breeds numerously on the Blue Nile. Fischer (J. f. O. 1885, p. 117) records it as occurring at the Osi Tana, at Sigirari, the salt-swamp Ngau in East Africa, and, according to Reichenow (J. f. O. 1887, p. 48), he sent specimens from the Simiu River and Lake Victoria, east of Kagehi; and Dr. R. Boehm obtained it at Likulwe and Marungu, near Lake Tanganika. It is met with as far south in Africa as the Cape Colony. Sir John Kirk states that it arrives in the Zambesi from the north in December, and is found at all seasons on the coast, where it feeds on the sea-shore at low-water. Mr. Ayres and Capt. Feilden record it from Natal and Transvaal in the autumn and winter; Symonds (Ibis, 1887, p. 335) from Kroonstad in the Orange Free State; Shelley (Ibis, 1894, p. 477) from the Palombi River in Nyassaland; and Mr. Layard (B. of S. Africa, p. 320) says that a few specimens have come under his notice that were killed in the Cape Colony, and that a female was shot at Green Point, within three miles of Cape Town.

The Sacred Ibis does not appear to range as far as Algeria or Morocco in West Africa, but Mr. Forbes met with it on the Niger in December; it has been recorded from Senegal, Ashanti, and Casamanze, the Camma River, and Benguela. Señor Anchieta records it from Humbe, on the Cunene River and the Coroca River in Mossamedes. Mr. Andersson (B. of Damaraland, p. 297) never observed it in Damara or Great Namaqua Land; but it is not uncommon in the lake regions, and extremely abundant in Ondonga, especially during the rainy season, when it is comparatively tame, though wild at other times.

In general habits the Sacred Ibis is said to resemble the Curlew to some extent. It is usually met with in small companies, sometimes as many as fifty or sixty, and they feed in swamps or on the sea-coasts, probing the mud with their long bills for worms, like the Curlew, in company with which species, as also with Egrets and Herons, they are often seen. Mr. Ayres says that he has sometimes seen them sunning themselves on the upper boughs of the mangroves together with Spoonbills, White Herons, &c., and that in their flight they usually form some figure similarly to the Pelicans, Swans, and Geese. Wary and cautious to a degree, it is scarcely possible to stalk and shoot them; but, Dr. Vierthaler says, they show no fear of the natives, and may be seen in company with *Ardeola coromandelica* amongst the herds of cattle without taking any notice of the herdsmen or any other negroes who might be with them.

According to Von Heuglin the young birds utter a piping cry, and the call-note of the old birds is harsh, resembling that of *Ardea bubulcus*. They feed on insects of various kinds, worms, snails, frogs, spiders, grasshoppers, lizards, and snakes, &c., but when tame will eat almost anything. They are easily tamed, and become as tame as domestic poultry. Dr. Vierthaler, who kept several about the house, says that they preferred taking their food out of the water like a Duck, but made no noise with the bill. They were very expert with the bill, and would pick up the smallest insects with ease, and capture them amongst the finest grass. Their walk was slow, and in their general movements they were quiet and stately, but when in a good humour or hurried they moved with awkward jumps, having the wings extended. They would sit crouched for hours on their knees and were very partial to any soft object, and if a pillow were left about would soon find and take possession of it, resting with the wings and feet

outstretched. With other birds that were kept in the same yard they were excellent friends, living in peace with them, and showed great affection to each other, always sleeping close together. They bathed but seldom, settling down on their knees in the water and making themselves very wet. The flesh of both the old and young birds is, he adds, very tender and tasty, and well cooked they form quite a dainty dish.

The ancient Egyptians held this bird in high veneration, owing, it is said by the older authors, to its habit of destroying snakes; but this is not the reason assigned by modern Egyptologists. Vast numbers are found embalmed, at Sakkara especially; but there is much reason to believe that, though the species may in ancient times have been more plentiful than now in Egypt, the majority of the mummies are those of birds brought from the Upper Nile and kept tame in the temples. Dr. Leith Adams says (Ibis, 1864, p. 32) that "mummied Ibises are usually found alone, but sometimes with other sacred animals; and although Hermopolis was the patron city of the bird, as Buto of the Kestrel and other Hawks, we find it also among the tombs of Thebes and Memphis. . . . It was the emblem of Thoth, the scribe or secretary of Osiris, whose duty it was to write down and recount the deeds of the deceased; in consequence the bird is constantly seen on the ancient monuments under various forms. In the gizzards of the mummied specimens unrolled at Thebes I found large pebbles, beads, many shells of *Paludinæ*, but chiefly remains of coleopterous insects, especially of a small black beetle which is common on dung-heaps along the river's bank. All the paintings at Beni Hassan and the Tombs of the Kings represent the *I. religiosa*." He also remarks that no doubt the Sacred Ibis was imported into Italy, and kept about the temples of Isis.

The nest is placed in a tree, and, according to Vierthaler, nidification commences early in September near Khartoum; they usually build in a mimosa, nesting in companies, twenty or thirty nests being sometimes placed in one tree. The nest is very simple, about the size of that of a Rook, constructed of coarse twigs, and lined with grass and a few feathers, the number of eggs being usually three, occasionally, but seldom, four, and they breed but once in the year, though they are not very particular as to time, as he saw late in September and also in November young birds of about the same age. Dr. A. E. Brehm and Vierthaler describe the eggs as being about the size of those of the domestic hen, and white; but Von Heuglin says that they are greenish, bluish, or yellowish white, marked with brown, chiefly at the larger end. He also says that the nests are placed on *Sunt* or *Haráz* trees, and are as slightly built as those of the Ring-Dove, and are always in tall trees which are placed on islands or other places which are frequently flooded. Von Heuglin gives the measurements of the eggs as from 2" 4''' to 2" 5 $\frac{3}{4}$ ''' by 1" 5 $\frac{1}{2}$ ''' to 1" 6 $\frac{1}{4}$ '''.

The specimen figured is an adult male, for the loan of which, as well as those above described, I am indebted to Canon Tristram.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. B. Tristram.

a, ♀. Khartoum, June 1852 (*Von Heuglin*). *b*, ♂ *ad.* Transvaal, May 1870 (*T. Ayres*). *c*, *jun.* Transvaal (*T. Ayres*).



J. G. Keulemans del et lith.

AMERICAN WIGEON.
MARECA AMERICANA.

Mintern Bros. imp

MARECA AMERICANA.

(AMERICAN WIGEON.)

Canard Jensen, Buff. Hist. Nat. Ois. ix. p. 174 (1783).

Anas americana, Gmel. Syst. Nat. i. p. 526 (1788).

Anas wigeon, Bonn. Encycl. Méth. i. p. 129 (1790).

Mareca americana (Gmel.), Steph. in Shaw's Gen. Zool. xii. pt. 2, p. 135 (1824).

Anas (Boschas) americana (Gmel.), Nutt. Man. ii. p. 389 (1834).

Marica americana (Gm.), Swains. Classif. of B. ii. p. 366 (1837).

Mareca penelope, *β. americana*, Blas. List B. Eur. p. 21 (1862).

Anas (Mareca) americana, Gm., Reichenow, Orn. Centralbl. 1882, p. 20.

Figuræ notabiles.

D'Aubent. Pl. Enl. 955; Wils. Am. Orn. viii. pl. lxix. fig. 1; Audubon, Orn. Biogr. iv. pl. cccxlv.; id. B. of Am. vi. pl. ccclxxxix.

♂ *ad.* fronte et vertice medio albis ferè immaculatis : capite reliquo cum collo albido, densè nigro maculato : regione temporali plus aut minus viridi-æneâ : jugulo grisescenti-vinaceo : pectore cum abdomine medio albo, lateribus vinaceis, minimè fusco undulatis : subcaudalibus velutino-nigris : corpore suprâ griseo, fusco et fulvido undulato, uropygio ferè nigro : alis nigro-fuscis, speculo alari nigro, dimidio basali splendidè viridi : caudâ nigro-fuscâ : rostro plumbeo, versus apicem nigro : pedibus plumbeis : iride fuscâ.

♀ *ad.* *M. penelopæ* similis, sed capite et collo magis albidis nec rufescenti tinctis.

Adult Male (Dueñas). Crown and forehead white, unspotted; sides of the head and the neck dull white, closely speckled with black; behind the eye a dark black patch, tinged with metallic green and slightly speckled with white; upper parts generally grey, finely vermiculated with black, and in places tinged with rufous; rump blackish; primary quills greyish brown, paler on the inner webs; secondaries deep black, slightly glossed with bottle-green, the elongated inner secondaries dark grey on the inner web and velvety black margined with dull white on the outer web; upper wing-coverts white, excepting near the carpus, where they are dark greyish; upper breast and flanks rufescent vinaceous, the latter vermiculated with black; rest of the underparts white, except the under tail-coverts, which are velvety black: bill greyish plumbeous, black towards the tip; legs light bluish plumbeous; iris brown. Total length about 19 inches, culmen 1·6, wing 10·55, tail 5·0, tarsus 1·45.

Adult Female. Not unlike the female of *M. penelope*, but may be distinguished by having the light parts on the head and neck whitish instead of reddish brown; the wing-pattern is the same as in the male, but the white is interrupted with grey; the greater coverts frequently lack the black tips, the speculum is faint, and the black stripes of the inner secondaries are replaced by brown.

Young in down (*fide* Ridgway). Above dark olive with a sepia tinge; a spot of pale greenish fulvous on

the posterior half of the wing, one on each side of the back, and one on each side of the rump; lower parts, including head and neck, pale fulvous; a distinct blackish-olive stripe from the bill to and back from the eye, with a wide and conspicuous superciliary stripe of fulvous above it.

Up to 1889, when Mr. Howard Saunders published his 'Manual of British Birds,' there was but one fairly reliable record of the occurrence of this Duck in Great Britain, viz. that recorded by Blyth (Wood's 'Naturalist,' p. 417) of a male obtained by Mr. Bartlett in the London market in the winter of 1837-38, which is now in the collection of Mr. J. H. Gurney. A female was along with it, which, however, Mr. Bartlett did not secure. Thompson states (Ann. Nat. Hist. xv. p. 310) that one was obtained by a wigeon-shooter on Strangford Loch, near Belfast, in February 1844, but was not preserved; and, as mentioned by Mr. Saunders, Thomas Edward, of Banff, records one as having been shot on the Burn of Boyndie in January 1841, but this also was not preserved. There are also two records in the 'Zoologist,' which are not worthy of further notice. Quite recently, however, Mr. Howard Saunders exhibited at the Zoological Society, on behalf of Lord Lilford, a female which he said (P. Z. S. 1895, p. 273) Sir R. Payne-Gallwey found hanging in the shop of Mr. Murray, game-dealer, Leeds, with a lot of *M. penelope*, and had every appearance of having been freshly killed. This specimen will be figured by Lord Lilford in his 'Coloured Figures of the Birds of the British Islands.'

So far as I can ascertain, it appears to have only been obtained once on the continent of Europe, a female, now in the collection of M. Marmottan, of Paris, having, according to Messrs. Marmottan and Vian, been taken at Le Crotoy, Somme, on April 13th, 1875; but Mr. Saunders states that he was informed by Mr. O. H. Howarth that there is a specimen in a collection at St. Michael, Azores, ostensibly obtained there. It has been once recorded from the Eastern Palæarctic area by Prof. Stejneger, who says (Orn. Expl. in Command. Isl. &c. p. 158) that "a single individual of the American Wigeon was found dead among the sand dunes near the village, Bering Island, on the 1st May, 1883. It was moulting, the old plumage very worn, and new feathers protruding all over the body. Some storm had probably carried it astray, as this species is not known as an inhabitant of the Asiatic side of the Pacific Ocean. So far as I am aware this is the first record of its having ever been obtained in Asia. It was a female, and very lean."

In North America, where this Duck is common, it is found from the Arctic Ocean to Guatemala, and has also been obtained in several of the West-Indian Islands.

Messrs. Baird, Brewer, and Ridgway (Water B. of N. America, i. p. 520) write respecting its range in the United States as follows:—"Mr. Hearne states that this Duck was, a century ago, a very uncommon visitor to Hudson's Bay. It usually kept in pairs, being rarely seen in flocks, and was most frequently observed on rivers and marshes near the sea coast. Mr. Ross found it common on the Mackenzie; and Capt. Blakiston also met with it in Hudson's Bay, and saw it in large numbers on the Saskatchewan. It occurs in the spring and fall near Calais, Maine, where, however, Mr. Boardman regards it as rather rare. It is an occasional, rather than a common, visitor to New England. According to Giraud, it is not numerous on Long Island, though so abundant farther south.

"Mr. Allen found this bird quite common in the valley of the Salt Lake; Mr. R. Browne

mentions its occurrence on Vancouver Island; and Mr. Dall found it not uncommon near Nulato, and on the Yukon, but rare at St. Michaels. . . . On the coast of Norton Sound, according to Mr. Adams, the Wigeon does not arrive until the 12th of May; but later a considerable number were always to be met with about the inland marshes. . . . According to Dr. Cooper this species is one of the most abundant freshwater Ducks found during the winter in California, and, being easily shot, is one of the most common kinds in the market. . . . It has been found during the summer among the Rocky Mountains in lat. 42° N.; and is said by Dr. Suckley to breed among the inland lakes of Oregon. At that season it usually ranges from lat. 50° to 68°."

In the Southern States it appears to be numerous in the winter. I found it abundant in Southern Texas and near Matamoros in Mexico; and Col. Grayson records it as abundant on the coast of Western Mexico, near Mazatlan, from November until late in spring. Mr. Salvin (*Ibis*, 1859, p. 231) found it "common on the Lake of Atitlan, where it was seen in May 1858, and also observed near the village of Laguna, about a day's journey from Guatemala"; and in 1862 he met with it in the lagoons on the west coast of Guatemala. It also occurs on most of the West India Islands during the winter season, and has been recorded by Prof. A. Newton as observed by Mr. Rüse on the Island of St. Thomas, by Gundlach and others from Cuba, by Mr. Albrecht (*J. f. O.* 1862, p. 207) from Jamaica, and by Léotaud from Trinidad, where he says (*Ois. Trinidad*, p. 511) "it is a bird of passage, arriving in December or January, and leaving in April." He speaks of its flesh as being extremely dainty, and fit to grace the table of any epicure, especially that of young birds which have spent some time on the island. It is also recorded by Mr. Hurdis as having visited the Bermudas in October and November 1864.

According to Nuttall (*Orn. U. S., Water Birds*, p. 390), "the Wigeon or Bald Pate is a frequent attendant on the Canvass-Back, and often profits by this association. The former not being commonly in the habit of diving for subsistence, or merely from caprice, watches the motions of its industrious neighbour, and as soon as the Canvass-Back rises with the favourite root on which they both greedily feed, the Bald Pate snatches the morsel, and makes off with his booty. They are always very alert and lively, feeding and swimming out into the ponds and rivers at all hours of the day, but are extremely watchful, sheltering in coves and behind the land, and on the slightest attempt to steal upon them, immediately row out into the stream beyond gunshot, and then only take to wing when much disturbed. In Carolina and the West Indies they frequent the rice-fields in flocks, and in Martinico are said to do considerable damage to the crops. When thus feeding in company they have a sort of sentinel on the watch. At times they keep in covert until twilight, and are then traced by their low, guttural, and peculiar whistle or *whew, whew*, as well as other calls, and their whistle is frequently imitated with success to entice them within gunshot. They feed much in the winter upon aquatic vegetables, cropping the *Potamogeton* or Pond Weed, as well as other kinds of freshwater plants and seeds, and sometimes themselves dive and collect the roots and leaves of the *Ruppia* and *Zostera* or sea-wrack."

Messrs. Baird, Brewer, and Ridgway write (*l. c.*) that "while the Canvass-backs and the Black-heads dive and pull up by the roots the *Vallisneria* grass, the Bald-pates manage to obtain their full share of it, and at times succeed in robbing them of the whole. At this time the flavour of the Bald-pate is considered preferable to that of even the far-famed Canvass-backs. Of all the Ducks that are found in the Chesapeake, the Wigeon is said to be one of the most

difficult to attract to the shore by the process known as 'toling.' In wing shooting it is regarded by the hunters as a great nuisance. It is not only so shy that it avoids the points of land, but by its whistling and its confused manner of flight it alarms the other species. During its stay in these waters it is the constant companion of the Canvass-backs, upon whose superiority in diving it depends in a large degree for its food, stealing from them as they rise to the surface of the water the tender roots of the plant of which they are both so fond. When in good condition the flesh of the Bald-pate cannot easily be distinguished from that of the Canvass-back. It is also thought that birds killed in other waters, though excellent eating, are far inferior to those from the flats of the Chesapeake. The Bald-pate is said to visit the rice-fields of the south during the winter in considerable numbers."

They further state that this Wigeon breeds rather abundantly throughout the whole of British America as far north as the Arctic Ocean, but only rarely in the extreme northern parts of the United States, both east and west of the Rocky Mountains. Mr. Robert Kennicott took a Bald-pate's nest near Fort Yukon on the 7th June, some thirty rods from the river, on high dry ground, among large spruces and poplars. This species always nests, he says, among trees or bushes, at a considerable distance from water. He invariably found the nest among dry leaves upon high, dry ground, either under large trees or in thick groves of small ones, frequently among thick spruces. The nest is rather small, simply a depression among the leaves, but thickly lined with down, with which, after incubation is begun, the eggs are covered when left by the parent. The nest is usually placed at the foot of a tree or bush, with generally no attempt at concealment. The female, when started from her nest, rises silently into the air, and usually flies to the nearest water, though sometimes she will alight on the ground a few rods distant.

The eggs are described by Messrs. Baird, Brewer, and Ridgway as being "of a creamy ivory-white colour, and vary in length from 2.15 to 2.20 inches, and from 1.45 to 1.50 in breadth."

Mr. Howard Saunders, in his excellent 'Manual of British Birds' (pp. 421, 422), includes two of the American Teal, *Querquedula carolinensis* and *Querquedula discors*; but I have grave doubts as to the advisability of so doing, and have decided not to follow his example. The former of these has some claim to be admitted, as it does not appear to have been kept in confinement, but the latter has certainly been kept in confinement both in our Zoological Gardens and at Tours in France.

Of the Green-winged Teal, *Querquedula carolinensis* (J. F. Gmelin), Mr. Saunders writes: "An adult male was shot on November 23rd, 1879, on an arm of the Kingsbridge Estuary, South Devon, and was exhibited by me on behalf of its owner, Mr. H. Nicholls, at a meeting of the Zoological Society on December 4th, 1888. In the 'Zoologist' for 1852 Mr. (now Colonel) John Evans recorded the occurrence of an adult male near Scarborough in November 1851. Mr. Arthur Fellowes states (Zool. 1880, p. 70) that he possesses an example shot by his father 'more than forty years ago' at Hurstbourne Park, Hants, and he correctly describes the essential feature of its plumage." I do not find any record of its occurrence in any other part of Europe. In size this Teal is about the same as our European bird, and the females of the two species are practically undistinguishable; but the male of the Green-winged Teal is distinguishable in having a broad crescentic whitish band on the side of the body before the wing,

and in having the scapulars plain, whereas our European Teal has the long scapulars black externally and creamy white internally, and lacks the white on the side of the body in front of the wing.

The Blue-winged Teal, *Querquedula discors* (Linn.), has only once been obtained in Great Britain. Mr. Saunders states that "in the 'Naturalist,' viii. (1858) p. 168, Mr. W. C. Gibson, writing from Dumfries, says, without naming any month, 'a specimen of the Blue-winged Teal (*Anas discors*) was shot here a few weeks ago.' This bird, erroneously stated by the late Mr. R. Gray to have been killed in January 1863, afterwards passed into the collection of Sir William Jardine, and has recently been acquired by the Edinburgh Museum; it is a male, and undoubtedly genuine." According to Mr. Olof Winge, an adult male was shot near Säby, in Denmark, about the middle of April 1886.

The Blue-winged Teal is about equal in size to the Garganey, but is easily distinguishable from that species. The male has the head deep lead-grey with a purplish gloss, a large white black-edged crescent in front of the eye, the fore part of the back varied with brownish black and yellowish brown, the lower back and rump dark brown tinged with green; wing-coverts and outer webs of some of the scapulars deep sky-blue; speculum rich green, set between the white tips of the larger coverts and secondaries. The female is dark brown above, the feathers with pale edges, and whitish grey below, and retains the sky-blue on the wing-coverts and most of the wing-markings as in the male, and may thus be readily distinguished from the female Garganey.

The specimen of the American Wigeon figured is the male above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Dueñas (*O. Salvin*). *b*, ♂. British Columbia (*Whitely*).

E Mus. H. B. Tristram.

a, ♂. N. America, 1847; *b*, ♂. Dueñas, Guatemala, 1862 (*O. Salvin*).





J. C. Henshaw del.

HOODED MERGANSER.
MERGUS CUCULLATUS.

Miner Bros. imp.

[Handwritten signature]

MERGUS CUCULLATUS.

(HOODED MERGANSER.)

L'Harle hupé de Virginie, Briss. Orn. vi. p. 258 (1760).

Mergus cucullatus, Linn. Syst. Nat. i. p. 207 (1766).

Merganser cucullatus (Linn.), Bonn. Encycl. Méth. i. p. 103 (1790).

Lophodytes cucullatus (Linn.), Reichenb. Syst. Av. p. ix (1852).

Mergus (Lophodytes) cucullatus (Linn.), Coues, Key N.-Am. B. 2nd ed. p. 718. no. 745 (1884).

Figuræ notabiles.

Edwards, Gleanings, pl. 360. fig. 3; D'Aubent. Pl. Enl. 935, 936; Wils. Am. Orn. viii. pl. lxxix. fig. 1; Audub. Orn. Biogr. iii. pl. cccxxiii.; id. B. of Am. vi. pl. ccccxiii.; Gould, B. of G. Brit. v. pl. xxxvi.

♂ *ad.* fronte saturatè fuscâ: capite valde cristato: cristâ medialiter albâ et nigro marginatâ: corpore suprâ et caudâ nigro-fuscis: remigibus fuscis, secundariis in pogonio externo albis, speculum album formantibus, speculo fasciis duabus nigris notato: tectricibus alarum majoribus nigris albo apicatis, medianis griseis, minoribus nigro-fuscis: collo nigro: corpore subtùs albo: regione antepectorale utrinque duabus fasciis lunatis notato: hypochondriis rufescenti-fuscis, nigro-fusco vermiculatis: subcaudalibus cinereo-albis, rufescenti-fusco et saturatè fusco marmoratis: rostro nigro: pedibus flavo-fuscis: iride flavâ.

♀ *ad.* capite, collo et pectore fuscis, mento et gulâ pallidioribus: cristâ rufescenti-fuscâ, plumis versus apicem inconspicuè pallidioribus: corpore suprâ saturatè fusco: alis et caudâ fuscis: speculum in alis album fasciis duabus nigris notatum: pectore et abdomine albis, hypochondriis fuscis plumis pallidiore marginatis.

Adult Male (Calais, Maine). Forehead dark brown; head furnished with a compressed semicircular crest, which is white in the centre, broadly margined with black, excepting on the posterior portion, where the margin is narrow; scapulars deep black, the rest of the upper parts brownish black; quills brown, the secondaries white on the outer web, forming a speculum, which is crossed by two black bands; larger wing-coverts black, tipped with white, the median coverts grey, and lesser ones blackish brown; tail brown; upper parts of the neck black, the lower neck in front and rest of the underparts white; on each side of the neck two black crescentic bands; flanks reddish brown, finely vermiculated with blackish brown; under tail-coverts greyish white, finely freckled and waved with reddish brown and dark brown: bill black; feet and legs yellowish brown; iris yellow. Total length about 17 inches, culmen 1·7, wing 7·4, tail 3·8, tarsus 1·25.

Adult Female (Calais, Maine). Head, neck, and breast brown, lighter on the chin and throat, the feathers on the breast with paler margins; crest reddish brown, becoming much paler towards the tips of the feathers; upper parts darker brown; wings and tail brown, the former having the speculum as in the male; underparts below the breast white; the flanks brown, with pale margins to the feathers; maxilla black, edged with orange: mandible orange; feet dusky; iris hazel.

Young in down (Calais, Maine). Upper parts deep hair-brown, rather lighter on the head; on each side of the back a small whitish spot, and a similar large one on each side of the rump; middle of the throat and the chin white; sides of the head and throat below the eye warm brownish buff; lower neck in front dull buffy brown; rest of the underparts dull white, except the flanks, which are dark hair-brown.

It is only as a rare straggler to the British Isles that the present species can be included in the present work, for, so far as I can ascertain, there is no authentic instance of its occurrence in any other part of the Western Palæarctic area. It inhabits North America, ranging in winter as far south as Mexico.

It was first recorded as a British bird by Selby, but there is much reason to think that he was mistaken (see Trans. Norf. & Norw. Nat. Soc. ii. p. 408, note). Eyton (*Rarer Brit. B.* p. 75) describes and figures one obtained in the Menai Straits, North Wales, in the winter of 1830–31. Thompson (*B. of Irel.* iii. p. 161) records the occurrence of one which was obtained, he states, by Dr. Chute at Dingle Bay, on the coast of Kerry, in winter, about the year 1840. Watters says that an immature bird was shot in co. Meath; and Sir Ralph Payne-Gallwey says he has shot three in Ireland, two of which ('The Fowler in Ireland,' p. 121) were obtained "in the severe frost of December, 1878, in Cork Harbour, and the other in the yet more severe weather of January, 1881, on the north coast of Kerry." He also heard of a solitary bird being shot near Sligo the same winter, which, he believes, was not preserved. He adds that Mr. Glennon, the Dublin bird-stuffer, informed him that he had never received but one specimen, which was no. 6 recorded below.

There are many other records of the occurrence of this Merganser in Great Britain, but not a few of these are open to doubt. Mr. J. J. Dalgleish, in his list of North-American birds which have occurred in Europe (*Auk*, 1880, p. 217), enumerates eleven, since which two more have been recorded, making thirteen as follows:—

1. One, Yarmouth, winter of 1829 (Selby, *Trans. Nat. Hist. Northumberl.* i. p. 292; *Edinb. Journ. Nat. & Geogr. n. s.* iii. p. 238; see *Trans. Norf. & Norw. Nat. Soc.* ii. p. 408).
2. One, Menai Straits, near Bangor (Eyton, *Hist. Rar. Brit. B.* p. 75).
3. One, Burton Park, Petworth, Sussex (Yarrell, *Brit. B. ed. 3*, iii. p. 387).
4. One, Norfolk (Blyth, *Naturalist*, 1838, p. 413; Stevens & Southwell, *B. Norf.* iii. p. 228).
5. One, Dingle Bay, co. Kerry (Thompson, *B. of Irel.* iii. p. 161).
6. One, co. Meath (Watters, *B. of Irel.* p. 215).
7. Caithness (Sinclair, *Proc. Roy. Phys. Soc. Edinb.* ii. p. 340).
8. A pair near Leeds (Gould, *B. of Gt. Britain*, vol. v.).
9. One, Somersetshire (Baker, *Somerset. Archæolog. Proc.* p. 146).
10. Three seen, Frith of Forth (Colquhoun, *Sporting Days*, pp. 20, 21).
11. Two, Sheerness, March 1870 (Mathew, *Zoologist*, 1870, p. 2182).
12. Three shot by Sir R. Payne-Gallwey—two in Cork Harbour in December 1878, and one on the north coast of Kerry in January 1881.
13. Two, near Barmouth, off the Welsh coast, 1864, shot by Sir William Clayton (W. Earle, Esq., in epist. to R. W. Chase, Esq.). These specimens were sent to Mr. Chase, and are, I believe, still in his collection.

Of the above, the occurrences least open to doubt appear to be nos. 2, 4, 5, and 13, and there can be no question as to its having been obtained on several occasions in Great Britain, but, so far as I can ascertain, it has not been met with elsewhere in Europe. Temminck certainly speaks of it (*Man. d'Orn.* iv. p. 557) as having been once recorded from France, but gives no particulars, and I can find no other mention of it as a straggler to the French shores.

The true home of this Merganser is North America, where it is found from Alaska to Mexico. Messrs. Baird, Brewer, and Ridgway (*Water B. of N. America*, ii. p. 122) write respecting its range on that continent as follows:—"Mr. Dall states that it was not obtained by any of his party in Alaska, and believes that, if found at all in that region, it must be very rare. Mr. Bannister, however, thinks that he observed a large flock of this species in October 1865, only a short time before the harbor at St. Michael's had become frozen over. He shot one of the birds; but having no boat could not secure it. He did not notice this species at any other time. It was seen on Vancouver Island by Mr. R. Browne; and Dr. Cooper found it common, in winter, along the whole Pacific coast, and thinks that it very probably breeds within the limits of Washington Territory, as its unfledged young were found by Dr. Suckley on Puget Sound. This species appears to prefer clear fresh water in the forests and along mountain-streams, where it can obtain plenty of young trout and insects.

"It was found on the Mackenzie River by Mr. Ross, and on Hudson's Bay by Mr. Murray and by Captain Blakiston. Sir John Richardson speaks of meeting with it in all parts of the Fur Countries, where he found it frequenting the lakes and rivers. Major Wedderburn states that a single specimen of this bird was taken alive near Ireland Island, in Bermuda, in January 1849, by a sailor; and Mr. Hurdis adds that another was shot in 1850.

"It was found along the Atlantic coast from the St. Lawrence to Florida. In winter it is especially abundant in the Carolinas; and during the breeding-season it is common in Northern Maine and in the provinces of New Brunswick and Nova Scotia. It is equally abundant in the forests of Oregon and Washington Territory, and is found without doubt throughout the interior in all suitable localities. . . .

"This species is quite common in the fall in Massachusetts. It comes in flocks, and is at times abundant. Mr. William Brewster informs me that he has shot several of these birds in each season, and that he has frequently seen as many as thirty or forty in a single flock. It is a difficult bird to shoot, as it is very shy, and flies rapidly. It is the swiftest in flight of the whole Duck family.

"On Long Island, according to Giraud, this bird is known as the 'Water Pheasant,' and also as the 'Hairy-head,' but it is rather rare on that coast. It is a very active diver, subsists by fishing, and its flesh is not held in high esteem."

To this I may add that when living in New Brunswick I frequently saw this Merganser during the summer season, and believe that it nested on the Musquash River, but I never succeeded in finding its nest. It was only a summer visitant, leaving for the south before winter set in. In the winter it ranges far south, but it is said to winter in Oregon, as Mr. Anthony (*Auk*, 1886, p. 163) states that a few were seen near Beaverton in December, and, according to Mr. Merrill (*Auk*, 1888, p. 141), it is resident in that State. Mr. Scott (*tom. cit.* p. 268) says that it is a rare winter resident in Florida, and Mr. Lloyd (*Auk*, 1887, p. 184) that it is common

in winter in Western Texas. I met with it there on the Leona, Medina, and Nueces Rivers, but nowhere common.

It is a winter visitant also to the West Indies. Wedderburn and Hurdis record the occurrence of a female on the 10th January, 1849, and of a young bird in December 1850 in Bermuda, and ; according to Gundlach (*J. f. O.* 1875, p. 385), it is rather rare in Cuba in winter, but is sometimes brought to the market in Havana. It is said to have occurred in Greenland, but I do not find any authentic instance of its having been obtained there.

In its general habits the Hooded Merganser reminded me much of our Red-breasted Merganser, but I found it more shy and wary and it appeared to fly more swiftly. It is never met with except on fresh water, and Nuttall also remarks that it prefers the fresh water, especially in wooded localities, and only approaches the sea in winter when its favourite haunts are blocked up with ice. Like the Smew it nests in hollow trees, and never, I believe, in other situations. Messrs. Baird, Brewer, and Ridgway state (*l. c.*) that "it is found in the neighbourhood of Calais, Me., where it spends the summer, and where it breeds in considerable numbers. Mr. George A. Boardman informs me that he has repeatedly noticed it breeding in the neighbourhood of the St. Croix River, where it always nests in the hollows of trees, lining the cavity with fine dry grasses, leaves, and down; the eggs are from five to eight in number.

"Several years ago, Mr. Boardman's attention was called to a singular contest between a female Wood-Duck and a female of the Hooded Merganser for the possession of a hollow tree. The two birds had been observed for several days contesting for the nest, neither permitting the other to remain in peaceful occupancy. The nest was found to contain eighteen fresh eggs, of which about a third belonged to the Merganser; and as the nest was lined with her own dark-coloured down, it appeared probable that this bird was the rightful owner of the premises."

I am indebted to my old friend Mr. George A. Boardman for a clutch of six eggs, together with the down, taken by himself near Calais, Maine, on the 15th May, 1865, the nest being in a hollow tree. The down is dull dark buffy grey in colour, and the eggs are remarkable as being very round and having a very thick smooth shell. In colour they are creamy white, and measure from 2.05 by 1.78 inch to 2.17 by 1.79.

I am indebted to Mr. K. C. McIlwraith, of Hamilton, Ontario, for a male of this species, which is by far the finest specimen I have ever seen. Unfortunately it was received just after the Plate had been drawn, or I should have figured it.

The specimens figured are those above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.*, *b*, ♀ *ad.* Calais, Maine, U.S. (*G. A. Boardman*). *c*, *d*, ♂ *ad.* Hamilton, Ontario, April 15th, 1888 (*K. C. McIlwraith*). *e*, *pull.* Calais, Maine (*G. A. Boardman*).

E Mus. H. B. Tristram.

a, ♂, *b*, ♀. Labrador, 1846; *c*, ♀. N. America; *d*, ♀. N. America (*Lord Walsingham*).



J. A. S. P. del. et lith.

EASTERN RING-DOVE
COLUMBA CASTOTIS.

Miner Bros. imp.

COLUMBA CASIOTIS.

(EASTERN RING-DOVE.)

Columba palumbus, Blyth, J. As. Soc. Beng. xiv. p. 865 (1844, partim).

Palumbus torquatus, var., id. Cat. Mus. As. Soc. Beng. p. 233 (1849).

Palumbus casiotis, Bonap. Consp. Gen. Av. ii. p. 42 (1857).

Columba casiotis (Bp.), G. R. Gray, List B. Brit. Mus., Columbæ, p. 26 (1856).

Columba palumbus himalayana, Schlegel, Mus. Pays-Bas, Columbæ, p. 66 (1873).

Columba pulchricollis, Severtz. Turk. Jevotnie, p. 68 (1873, nec Gould).

Palumba pulchricollis, id. J. f. O. 1875, p. 180 (nec Gould).

Figura unica.

Bonap. Icon. Fig. pl. lviii.

Ad. C. palumbo similis, sed plagâ utrinque in colli lateribus ochraceâ nec albâ.

Adult Male (Tian-shan, May). Resembles *Columba palumbus*, but differs in having the patches on the sides of the neck ochraceous instead of white.

THE range of this eastern representative of our Ring-Dove extends from the high plateau of Persia eastward through Afghanistan and the Himalayas to Turkestan and Kuldja.

I do not find that it has been met with in Transcaspia, though it is not improbable that it may occur in the eastern portion of that district; but in Persia Mr. Blanford (E. Persia, ii. p. 269) met with it "near Shiraz and north of the Elburz in Mazandarân and Ghilân, and also in gardens containing large trees near the higher villages, as at Râyîn, near Karmân." Col. Swinhoe found it common in Afghanistan, at Kandahar, the Kojuk, and Quetta. Major Wardlaw-Ramsay (Ibis, 1880, p. 68) states that he met with it "not generally common in the Hariab district. In one spot, however, in the pine-forest between the main range of the Safed-Koh and the village of Ali Kheyl a large flock could always be found in the month of April. By the middle of the next month they had all paired. I found several nests, but I was not able to obtain the eggs." Sir O. St. John (Ibis, 1889, p. 173) found it "very numerous in suitable localities, such as the large gardens about Kandahar and in the wooded hills west of Quetta. It breeds in large numbers in the juniper-forests of Ziarat, 7000 to 9000 feet, migrating to the lower hills in autumn." Both Col. Biddulph and Mr. Scully met with it in Gilgit, where, according to the latter (Ibis, 1881, p. 583), it is "a fairly common summer visitor; it arrives about the middle of April, and leaves in the middle of November. It breeds in the forests above 8000 feet, and is found in the main valley at about 5000 feet, on arrival in April and May, and again in October and November on its way down south." In India, according to Dr. Jerdon, it is found in the N.W. Himalayas, near Simla, and in the alpine Punjab, and visits the Salt Range and the plains of the Punjab during winter. Mr. A. O. Hume says that they first appear about Simla,

Mussoorie, and Almorah about the beginning of November, and remain throughout the winter, leaving about the middle of April.

In Turkestan, where it was met with by Dr. Severtzoff, it appears to be tolerably common, and, according to Mr. Pleske (Rev. Turk. Orn. p. 45), "breeds on the Iskander-kul, and was observed at Baissun and Derbent in the Western Tian-shan. Russoff received eggs, taken on the 4th and 6th June, from the Urjukle-tau, near Saamin. They are white and resemble those of *C. palumbus*."

Like its western ally, the Eastern Ring-Dove builds a loosely constructed nest, which is placed on a tree, and lays two white eggs. According to Mr. A. O. Hume (Nests and Eggs of Ind. B. 2nd ed. ii. p. 347), Captain Unwin took a nest containing two nearly fresh eggs in the Agrore Valley, at an elevation of perhaps 2500 feet. The nest was a loosely built twig platform, placed on a branch of a fir-tree near the trunk, about 30 feet from the ground. Col. C. H. T. Marshall found this Pigeon breeding in the valley of the Jhelum, at low elevation, in dense thorny jungles; and Capt. Cock, who found it nesting near Murree in June, says that the nests were placed on bushes or small trees, never at any great height, 12 feet above the ground being about the average.

The eggs, according to Mr. Hume, resemble those of *Columba palumbus*, but are, as a rule, rather smaller, varying from 1.53 to 1.65 inch in length and from 1.06 to 1.2 in breadth.

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Tian-shan, May 1889 (*Pevtsoff*). *b*. Koteghur, India, March 15th, 1871 (*A. O. Hume*).

E Mus. H. B. Tristram.

a. Cheer Forest, May 20th, 1870; *b*. Cashmere (*G. Henderson*).



J. G. Keulemans del et lith

INDIAN STOCK-DOVE.
COLUMBA EVERSMANNI.

Mintern Bros. imp

COLUMBA EVERSMANNI.

(INDIAN STOCK-DOVE.)

- ? *Columba fusca*, Pall. Zoogr. Ross.-As. i. p. 567 (1811, nec Müll.).
Columba ænas, var., Licht. in Eversm. Reise nach Buchara, p. 132 (1823).
Columba ænas, var. *tatarica*, Wagl. (ubi?), fide Bp. Consp. Gen. Av. ii. p. 48 (1857).
Columba evermanni, Bonap. Compt. Rend. xliii. p. 838 (1856).
Palumbæna evermanni, id. ut suprâ et p. 948 (1856).
Columba ænicapilla, Blyth, J. As. Soc. Beng. xxvi. p. 219 (1857).
Palumbæna evermanni (Bp.), Jerdon, B. of Ind. iii. p. 467 (1863).
Columba fusca, Pall., Severtz. Turk. Jevot. p. 68 (1873).
Columba fusca, var. β . *brachyura*, Severtz. J. f. O. 1875, p. 180.
Columba intermedia, Dresser, Ibis, 1876, p. 321, nec Strickland.
? *Columba ænas*, Blanf. E. Persia, ii. p. 269 (1876).
Cælotreron evermanni (Bp.), Heine & Reichen. Nomencl. Mus. Hein. Orn. p. 275 (1890).
Columba fusca, Taczanowski, Faun. Orn. Sib. Orient. p. 732 (1893).

Koek-Koepteri, Tekke (*Zarudny*); *Kügan*, Turki (*Scully*); *Kummer-kulla*, Hindu (*Jerdon*).

Figura unica.

Henderson and Hume, Lahore to Yarkand, pl. xxxi.

Ad. C. ænæ similis, sed staturâ minore, coloribus pallidioribus: capite vinaceo tincto: uropygio cinereo-albo ferè albo: caudâ cum fasciâ cinereâ indistinctâ: plumis in colli lateribus rufescenti-æneo tinctis: pedibus purpureo-carneis: rostro corneo-fusco: iride flavâ.

Adult Male (Sirsa, Punjab). Resembles *C. ænas*, but is paler and smaller; head tinged with vinaceous; rump whitish grey, nearly white; tail with the grey band scarcely discernible, and the metallic feathers on the neck are glossed with coppery chestnut; legs purplish fleshy: bill horny brown; iris yellow. Total length about 12 inches, culmen 0.75, wing 7.75, tail 4.5, tarsus 1.0.

Obs. A male from Tschinas is rather larger, the wing measuring 8.1 inches, and shows a tendency to *C. ænas* in having the rump rather more of a bluish-grey tinge. The female does not differ from the male in plumage.

THE present species is found from Transcaspia and Afghanistan to Turkestan and Northern India, ranging north as a rare straggler to Siberia.

In Transcaspia, according to Mr. Zarudny (Ois. Transcasp. p. 61), it is common on the plain of Ahal-Téké, where it frequents gardens and bush-covered valleys near the rivers. He met with it in the gardens of the villages Gjarmaou, Firousé, and Koulkoulaou, and early in August he

saw flocks of fully 150 individuals. He also states (Rech. Zool. Transcasp. p. 102) that it is more frequently met with on the plains than in the mountains, and occurs along the Atrek between Jagly-Oloum and Douslou-Oloum, on the banks of the Douchak, the Tedgend, and the Central Murghab, in the Pindé and Merv oases, and is often to be seen amongst the ruins of ancient Merv, but more seldom along the Alikhanow canal.

Mr. Blanford remarks (E. Persia, ii. p. 269) that he did not notice any Stock-Doves in Persia; but Sir O. St. John shot them on the Persian plateau, and Mr. Blanford considers it probable that they belonged to the present species, which I think will prove to be the case, as *Columba ænas* probably does not occur there. Sir O. St. John obtained a female near Kandahar in April; and Dr. Aitchison found it nesting in considerable numbers on trees in the bed of the Hari-rud River in Afghanistan.

Dr. Severtzoff met with it in Turkestan; Russoff (Rev. Turk. Orn. p. 45) obtained both birds and eggs at Tschinas early in May; and the brothers Grum-Grzimallo procured a single specimen from Otun-tasy-tschan in the Bei-scham mountain-range.

Dr. Scully records it from Eastern Turkestan, and says (Stray Feathers, iv. p. 176): "This Pigeon was first obtained in a large clump of poplars (*Populus balsamifera*) at Taskhama in June. There they were in great numbers, but so wild that it was difficult to get specimens; I shot two young birds however, so that there can be no doubt about this species breeding in Eastern Turkestan. In August, again, at Yak-Shamba Bazar, I shot a couple of these birds in a clump of poplars and saw many about. The Yarkandis say that this species always haunts Toghrak (poplar) jungles, and that the nest is always placed on those trees."

Dr. Henderson shot a male on the 8th October at Chágra, above the Pángong Lake, at an elevation of 16,000 feet, when on the expedition from Lahore to Yarkand, and, according to Mr. A. O. Hume (Lah. to Yark. p. 271), it visits the plains of Upper India in large flocks during the cold season, but rarely wanders more than 150 miles from the foot of the hills. They take up their residence, he says, in some clump of trees near some pond or tank, often in the close vicinity of villages, and there they roost at night, and in the early morning and at dusk are to be seen clustered thickly on the topmost boughs; during the day not a bird is to be seen, the whole colony dispersing far and wide over the country in pairs, or in little parties of from three to seven. They come in November and disappear towards the end of March.

Northward this Pigeon ranges up to Siberia; and there is a specimen in the British Museum obtained by Dr. O. Finsch in Western Siberia in March. According to Taczanowski (*l. c.*) the only record of its occurrence in Eastern Siberia is on the authority of the elder Gmelin, who, as stated by Pallas, obtained one killed late in August in the forest near Krasnojarsk, on the Yennesei River.

In general habits the present species does not appear to differ from our European Stock-Dove, of which it is an eastern form, and, like that species, it nests both on trees and in holes in the ground.

According to Mr. Zarudny it is frequently found breeding in colonies of about fifty pairs, the nests being placed in holes and cracks in the steep river-banks. The nest is a slight structure or lining of dry grass and fine twigs, and the number of eggs is two, these latter being white and similar to those of *Columba ænas*, only rather smaller. He found fresh eggs near Kara-Bend late

in April. During heavy floods portions of the banks of the rivers frequently fall in, carrying with them the nests of these Doves, many of which are thus destroyed.

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Odha, Sirsa, Punjab, November 29th, 1867; *b*, ♂. Odha, November 28th, 1867 (*A. O. Hume*).
c, ♂. Tschinas, Turkestan, May 7th, 1878 (*Russoff*). *d*. Kuldja, July 19th, 1888 (*Dr. Lansdell*).

TURTUR CAMBAYENSIS.

(INDIAN TURTLE-DOVE.)

Tourterelle grise de Surate, Sonner. Voy. Ind. ii. p. 180 (1782).

Cambayan Turtle, Lath. Syn. ii. pt. 2, p. 652 (1783).

Columba cambayensis, Gmel. Syst. Nat. ii. p. 779 (1788, ex Lath.).

Columba ægyptiaca (nec Lath.), Licht. in Eversm. Reise nach Buchara, p. 133 (1823).

Peristera cambayensis (Gm.), Boie, Isis, 1828, p. 327.

Turtur ermanni, Bp. Compt. Rend. xliii. p. 942 (1856).

Turtur cambayensis (Gm.), Bp. Consp. Gen. Av. ii. p. 62 (1857).

Stigmatopelia cambayensis (Gm.), Sundev. Tent. p. 100 (1872).

Streptopelia ægyptiaca (nec Lath.), Severtzoff, J. f. O. 1875, p. 180.

Turtur senegalensis (nec Linn.), Sclater & Taylor, Ibis, 1876, p. 62; Dresser, B. of Eur. vii. p. 55 (1876, partim); Sharpe, 2nd Yark. Miss., Aves, p. 118 (1891).

Peristera senegalensis (nec Linn.), Radde & Walter, Vög. Transcasp. p. 83 (1888).

Tortru-fachta, Hindu; *Chitti-bella-guwa* and *Sowata-guwa*, Tel.; *Touta-porah*, Tam. (*fide* Jerdon).

Figura nulla.

Ad. T. senegalensi similis, sed corpore suprà cum uropygio pallidè et sordidè fusco, hoc nec cæruleo: capite, collo et pectore vinaceis, mento et gulâ pallidioribus: tectricibus alarum pallidè cinereo-cæruleis: abdomine centraliter cum crisso et subcaudalibus albis.

Adult Female (Constantinople). Upper parts, including the rump, pale, dull earth-brown; most of the wing-coverts pale ashy blue; head, neck, and breast vinous, the chin and throat paler; centre of the abdomen, vent, and under tail-coverts white; otherwise similar to *Turtur senegalensis*. Total length about 11 inches, culmen 0·75, wing 5·7, tail 5·0, tarsus 0·82.

Young Female (Constantinople). Upper parts paler and duller than in the adult, the wing-coverts less blue; throat dull white, rest of the underparts pale buffy earth-brown without any vinous tinge, dull white on the abdomen, vent, and under tail-coverts; the black collar is absent, and some of the feathers on the lower neck have narrow pale margins.

WHEN I wrote the article on *Turtur senegalensis* in the 'Birds of Europe' (vii. p. 55) in 1876 I had not had an opportunity of examining any specimen from Europe, but since then I have received, in a small collection made by Mr. Pearse in Constantinople, several small Turtle-Doves labelled *T. senegalensis*, which, on comparison, I find to be, as stated by Count Salvadori (to whom I lent them for the British Museum Catalogue, as they had no European specimens in the National Collection), undistinguishable from *Turtur cambayensis* from India. In 1876 I united these two species, but subsequently, when I had an opportunity of examining a series, I found that they

must be kept apart, as they are most certainly specifically distinct. Count Salvadori does not include *T. senegalensis*, but only *T. cambayensis*, as found in Turkey; but there is no doubt that both species occur there, as I have a specimen obtained by Mr. Pearse at Turballi which, though not quite adult, has the rump as blue as in typical *T. senegalensis*. I am, however, afraid that I must blame myself for this omission on the part of Count Salvadori, as I am not sure that he saw the specimen in question. I have not been able to examine a specimen from Greece, but, judging from the description given by Count von der Mühle (Orn. Griechenl. p. 83), the present species does not occur, *Turtur senegalensis* being the only one found there. It is not impossible that both forms may occur in Asia Minor, but the present species is certainly found there, as there is a specimen in the British Museum obtained by Mr. C. G. Danford at Aintab. Dr. Krüper records a Turtle-Dove as common and breeding at Smyrna and Axari, which is probably the present species, but I have not been able to procure one from there for examination. It is, according to Messrs. Radde and Walter (Vög. Transcasp. p. 83), a resident in the eastern part of Transcaspia, and is restricted to the cultivated zone of Buchara, on the left bank of the Amu-Darja. They obtained a male on the 20th March, 1887, not far from Tschardshui, and I may add that I received a specimen from Tashkend through Mr. Nazaroff. Messrs. Radde and Walter say that it is respected by the Bucharans, and has consequently become quite domesticated. It breeds in the walls below the roofs and in the galleries of the dwelling-houses, and goes about half-tame with the poultry in the yards. On the 20th March they found a female already sitting on her eggs. Dr. Sharpe records the present species from Fao, in the Persian Gulf; but Mr. Blanford did not meet with it in Persia, though it is probably the Turtle-Dove he refers to as included by Eichwald, and which, he says, inhabits the west shore of the Caspian from Persia to Astrachan.

Col. Swinhoe records it (Ibis, 1882, p. 117) as common throughout the year in Afghanistan. It commences breeding in the latter end of February, and he took two eggs on the 22nd and caught a half-fledged young one on the 20th March. It is, he adds, very common in the city of Kandahar, and makes its nest in the holes in mud walls. Col. Biddulph and Mr. Scully each obtained one in Gilgit, where it appears to be uncommon. Dr. Severtzoff records it from Turkestan; Russoff obtained it in Tschinas, and it was observed in the Western Tian-shan.

According to Dr. Jerdon the present species is found throughout the greater part of India, not occurring in Ceylon, Malabar, or Lower Bengal, nor in the countries to the eastwards, but very abundant in Central, and especially in Western, India, also in Sind and the Punjab. Mr. Blanford found it in Baluchistan, where it appears to be common.

In its habits the present species does not appear to differ from *T. senegalensis*. In India it is, according to Dr. Jerdon, "a very familiar bird, entering gardens and feeding on public roads, and close to houses and stables, without any alarm; but it is also very abundant in all low bushy jungles. It breeds in Southern India at various times; and Hutton records that it visits Mussooree in April, remaining to breed, and departing again in autumn. Its *coo*, says Blyth, is low, subdued, and musical, a dissyllabic sound, repeated four or five times successively, and of which its Hindustani and Tamil names are a sort of imitation." Like its congeners it makes a very scanty nest, and deposits two pure white eggs. I have in my collection eggs from different

parts of India which are white, the surface being smooth, but not glossy, and varying in size from 0·95 by 0·75 inch to 1·02 by 0·77 inch; Dr. Rey says that specimens in his collection measure from 24·5 millimetres by 20·0 to 27·0 by 20·5.

From the above it will be seen that in my article on *Turtur senegalensis* in the 'Birds of Europe' many of the notes on its occurrence in Turkey, and probably in Asia Minor, and all those relating to countries east of Asia Minor refer to *Turtur cambayensis* and not to that species.

Turtur senegalensis inhabits the whole of the African continent from Egypt down to the Cape of Good Hope, Socotra, the Canary Islands (according to Count Salvadori), Palestine, and Greece, and, as above stated, it has also occurred in Turkey.

As the present species is readily distinguished from *Turtur senegalensis* in having the upper parts earth-brown without any trace of rufous, and the rump being similar in colour to the back and not bluish, I have not deemed it necessary to figure it.

The specimens described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♀ *ad.*, *b*, ♀ *juv.* Constantinople, May 15th, 1878 (*Pearse*). *c*, ♀ *ad.* Tashkend, January 11th, 1882 (*Nazaroff*).



J.G. Keulemans del et lith.

SENEGAL SANDGROUSE.
PTEROCLES SENEGALLUS.

Mintern Bros imp.

PTEROCLES SENEGALLUS.

(SENEGAL SAND-GROUSE.)

Gélinotte de Sénégal, Buff. Hist. Nat. Ois. ii. p. 250 (1771).

Tetrao senegallus, Linn. Mantissa, p. 526 (1771).

Pin-tailed Grouse, var. A, Latham, Gen. Synop. ii. p. 749 (1783).

Tetrao senegalus, Lath. Ind. Orn. ii. p. 642 (1790).

Pterocles guttatus, Licht. Verz. Doubl. p. 64 (1823).

Pterocles senegalus (Linn.), Gray, Gen. of B. iii. p. 519 (1845).

Pterocles senegalensis, Rüpp. Syst. Uebers. p. 106. no. 384 (1845).

Pteroclorus senegalus (Linn.), Bp. Compt. Rend. xliii. p. 880 (1856).

Pterocles senegallus (Linn.), Shelley, B. of Egypt, p. 220 (1872).

Pteroclorus senegallus (Linn.), Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 14 (1893).

Fuku, Somali; *Kittaviah*, Berber; *Quata*, Arabic.

Figuræ notabiles.

D'Aubenton, Pl. Enl. 130; Temm. Pl. Col. v. pl. xxvii.; Gould, B. of Asia, vi. pl. lxii.;
Koenig, J. f. O. 1895, Taf. xii.

♂ *ad.* pileo et corpore suprâ læte isabellinis, supracaudalibus ochraceo-isabellinis: pilei lateribus, loris et nuchâ posticâ dilutè cæruleo-cinereis: primariis isabellinis, in pogonio interno fumoso adumbratis et fumoso-fusco terminatis: secundariis fusco-isabellinis ad basin, versus apicem fuscis et ochraceo-isabellino apicatis: tectricibus minoribus dorso concoloribus, reliquis in basi fulvescenti-canis, versus apicem fuscis et isabellino apicatis: rectricibus medianis valde elongatis, versus apicem angustatis, fulvescenti-isabellinis, in dimidio apicali fumoso-fuscis, reliquis in dimidio basali isabellino-fuscis, versus apicem nigricantibus et albo apicatis: capitis lateribus et gulâ ochraceis, gutture cano, corpore reliquo subtùs isabellino: abdomine medialiter nigro: subcaudalibus isabellino-albidis, in dimidio basali nigris: rostro corneo-cærulescente: digitis nigro-fuscis: iride umbrinâ.

♀ *ad.* pileo, nuchâ et corpore suprâ cum tectricibus alarum et supracaudalibus isabellinis, nigro guttatis: rectricibus medianis paulo brevioribus et obsoletè nigro fasciatis: genis, regione paroticâ, mento et gulâ lætè ochraceo-aurantiacis: gutture et pectore isabellinis nigro guttatis: partibus inferioribus aliter sicut in mare coloratis.

Adult Male (Sind, June). Crown, back, rump, and upper tail-coverts dark isabelline, rather yellow on the upper tail-coverts; sides of the crown to below the eye, nape, and hind neck blue-grey; primaries greyish isabelline, becoming brown towards the tip, and on the inner web washed with brown; secondaries isabelline brown on the basal portion, becoming dark brown towards the tip, and margined with warm isabelline; lesser wing-coverts like the back, the remaining coverts greyish at the base, then warm brown tipped with isabelline; central tail-feathers yellowish isabelline on the basal half, then dark brown, much elongated and attenuated, remaining tail-feathers isabelline brown at the base, then blackish, tipped with white; sides of the head below the eye and throat ochre, the lower throat bluish grey; rest of the underparts isabelline, rather paler than the back; centre of the abdomen black;

under tail-coverts creamy white, but black at the base: bill bluish horn; feet blackish brown; iris brown. Total length about 12·5 inches, culmen 0·65, wing 8·0, tail 5·75, tarsus 1·1.

Adult Female (Sind, June). Crown, nape, and upper parts generally pale isabelline, spotted with black; sides of the head below the eye, chin, and upper throat ochreous; lower throat and breast isabelline, spotted with black; rest of the underparts as in the male. Wing 7·3 inches, tail 4·2, tarsus 1·05.

Young Male (Kotri, Sind). Resembles the female, but is not spotted on the upper part, but irregularly marked and marbled with black, the nape, back, and rump very little marked; the ochreous on the throat is paler, and the lower throat and breast are unspotted; the median tail-feathers are pale isabelline, barred with black, and not elongated or attenuated.

THE present species, which, like *P. coronatus*, can only be included as a rare visitant to the southern portion of the Western Palæarctic area in North Africa, inhabits North Africa, ranging eastward through Arabia to N.W. India.

Canon Tristram speaks of it (*Ibis*, 1860, p. 71) as being confined to the extreme south of the Sahara, where it was more plentiful than *P. coronatus*; Dr. Taczanowski records it (*J. f. O.* 1870, p. 51) as common in the desert region of the province of Constantine in Algeria; and Dr. Koenig (*J. f. O.* 1893, p. 74) met with it near Biskra, where, he believes, it breeds. Mr. J. I. S. Whitaker informs me that he found it plentiful at Sidi-Okbar, near Biskra, and met with large flocks in the spring coming to drink at the river near that place. He also (*Ibis*, 1895, p. 105) records it from Tunis, and says that his collectors obtained specimens about the end of March at Tarfaoui to the N.W. of the Chott. He did not, he informs me, meet with it further north than Gafsa. It occurs in Egypt, but does not appear to be common, and is found in Nubia. Capt. Speke (*Ibis*, 1860, p. 247) says that it is found in large flocks in the Somali country; and Von Heuglin records it as found in Arabia Petræa. In Palestine it is, according to Canon Tristram (*Faun. & Flor. of Palestine*, p. 122), the most universally distributed Sand-Grouse on all sides of Palestine, and the only one which actually breeds in the Jordan Valley. It is scattered all over the highlands of Moab, where he obtained specimens in the spring. He also states that it occurs in Arabia and the deserts west of the Tigris.

In the British Museum there are specimens from Bagdad, Mesopotamia, and Persia; and Mr. Blanford, who does not appear to have met with it in Persia, says that it is not so common in Baluchistan as in Sind. Col. Swinhoe, who (*Ibis*, 1882, p. 119) records it from Southern Afghanistan, says that he never met with it above the Bolan Pass, but it was common at Pirchowky and in all that part of the country below the range of mountains.

In India, according to Mr. Hume (*Stray Feathers*, vii. p. 161), it occurs west of 73° E. long., and as far north as 33° N. lat. It is extremely abundant and resident in the semidesert portions of Sind, where it breeds, but elsewhere is only a cold-weather visitant. He also records it (*op. cit.* iv. p. 4) as occurring "in Northern Guzerat, along the shores of the Runn. I obtained it near Soeegam (about 50 miles due west of Deesa); and Mr. James has recently met with it near Patree. Throughout Sind it is very common in suitable localities; it has been sent from Cutch and Northern Kattiarwar, but only as yet from the neighbourhood of the Runn." Mr. E. A. Butler received it from Pokurun, about 70 miles north-east of Jodhpoor, and he subsequently (*op. cit.* v. p. 222) shot one or two at Rajoo, about 90 miles S.W. of Deesa.

With regard to their habits, Mr. Hume says (Str. Feath. i. p. 222) that "they keep together in flocks of from five to fifty; very often each flock, at any rate in winter, consists of one sex, only occasionally we found both sexes intermingled. They trot about on the dry soil picking up seeds and insects, or squat motionless, sunning themselves in the early morning sun. They fly off to drink, morning and evening, often to comparatively very distant localities, and in fact comport themselves much as the other Rock-Grouse with which I am acquainted do. It was, perhaps, due to the season being yet young, but it did strike me that, though I often watched them from distances of from 80 to 100 yards with my binoculars, I never saw that perpetual skirmishing going on among the males which I have so often noticed amongst those of *P. arenarius* (but, no doubt, later in the year) in the Punjab."

Mr. J. I. S. Whitaker informs me that he found it frequenting, like other Sand-Grouse, open stony places and sand-hillocks, where the colour of the soil and the surroundings harmonize so perfectly with that of its plumage as to render detection at a distance next to impossible. It is, he adds, a shy, wary bird, and when in large flocks is almost unapproachable. He never succeeded in finding its nest.

Dr. Newman describes the note as peculiar, sounding like *Quiddle, quiddle, quiddle*, somewhat resembling the gurgling note produced by blowing through a reed, one end of which is immersed in water. Like its congeners it deposits its eggs on the ground, the nest being a mere depression.

Mr. A. O. Hume (Nests & Eggs of Ind. B. 2nd ed. iii. p. 366) says that he received a single egg, extracted from the body of a female shot in the desert west of Shikapoor, Upper Sind, on the 20th March, 1875, which in shape and size was similar to the egg of *P. exustus*, but the markings were much more sparse than in any egg of that species he had ever seen. It is cylindro-ovoidal, the ground-colour pale yellowish stone-colour, and the markings, which are thinly distributed over the surface of the egg, consist of olive-brown spots and tiny blotches, with a few crooked and hooked lines; besides these a few pale lilac-purplish or inky-grey spots, streaks, and smears, having a subsurface appearance, are scattered irregularly about the surface of the egg. Canon Tristram (*l. c.*) describes the egg as having the ground-colour similar to that of *P. alchata*, but the brown spots are very faint, and it is scarcely more than half the size of the egg of that species. He only succeeded in finding a single nest in the Sahara.

The specimens figured are the male and female above described, and are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.*, *b*, ♀ *ad.* Sind (*Lieut. H. E. Barnes*). *c*, ♂ *juv.*, *d*, ♂ *ad.* Kotri, Sind, June 1893 (*G. McMullen*).

E Mus. H. B. Tristram.

a, ♂. Wady-er-R'mail, Judæa, February 1st, 1864 (*H. B. T.*). *b*, ♂. Ziza, Moab, February 27th, 1872 (*H. B. T.*). *c*, ♀. Kustul Belka, Moab, February 27th, 1872 (*H. B. T.*). *d*, ♂. The Nile (*E. Cavendish Taylor*).



J. G. Keulemans del. et lith.

CORONETTED SANDGROUSE.
PTEROCLES CORONATUS.

Mintern Bros. imp.

PTEROCLES CORONATUS.

(CORONETTED SAND-GROUSE.)

Pterocles coronatus, Licht. Verz. Doubl. p. 65 (1823).

Quata, Arabic (*v. Heuglin*).

Figuræ notabiles.

Temminck, Pl. Col. nos. 339, 340 ; Gould, B. of Asia, vi. pl. lxiii.

♂ *ad.* fronte et plagâ supraoculari albidis : pileo cinnamomeo : striâ supraoculari in nucham confluyente cærulescenti-cinereâ : striâ utrinque ad frontis latera alterâque medianâ mentali nigerrimis : corpore suprâ isabellino-arenario : scapularibus et tectricibus alarum fusco notatis et maculis longitudinalibus isabellino-cervinis apicatis : remigibus primariis nigro-fuscis, extus vix isabellino-arenario marginatis : rectricibus rufescenti-isabellinis, duabus mediis vix elongatis, concoloribus, reliquis albido apicatis et ante apicem nigro-fasciatis : gulâ, collo superiore, laterali et postico, cum regione paroticâ, ochraceis : corpore reliquo subtùs isabellino-arenario, gutture et pectore cinereo lavatis : subcaudalibus albis : rostro et pedibus plumbeo-nigris : iride fuscâ.

♀ *ad.* coloribus pallidioribus : capitis picturâ nigrâ et striâ superciliari cærulescente nullis : fronte nigro striatâ : corpore suprâ nigro-fusco transfasciato et vix guttato : gutture et pectore nigro-fusco angustè fasciatis.

Adult Male (Oglet, S. Tunis, March). Centre of the forehead and a small space over the eye creamy white ; crown cinnamon, surrounded by a blue-grey band ; a black patch on each side of the forehead, chin, and middle of the throat jet-black ; upper parts sandy isabelline ; scapulars and wing-coverts marked with dark brown, the feathers tipped with a drop-shaped patch of creamy buff ; primaries blackish brown, slightly margined with sandy isabelline ; the two middle tail-feathers pointed and slightly elongated, warm sandy isabelline ; remaining rectrices warm sandy isabelline, with a subterminal black bar, and broadly tipped with white ; throat, cheeks, ear-coverts, and upper neck yellow ; rest of the underparts sandy isabelline, washed with grey on the lower throat and fore part of the breast ; under tail-coverts white : beak and feet plumbeous black ; iris brown. Total length about 10 inches, culmen 0·7, wing 7·8, tail 4·0, tarsus 1·1.

Adult Female (Oglet, S. Tunis, March). In general coloration paler than the male, and without any black on the head or throat, and lacking also the blue-grey band ; forehead narrowly striped with black ; upper parts generally barred and slightly spotted with blackish brown ; lower throat and breast narrowly barred with blackish brown.

Immature Male (*vide* Ogilvie Grant). Differs from the adult in having the tips of the primaries, central pair of tail-feathers, and some of the secondary-coverts and scapulars buff, vermiculated with black.

THE Coronetted Sand-Grouse ranges from Algeria, Tunis, and Egypt, eastward through Arabia and Persia to North-west India.

Major Loche includes it as found in Algeria, and Canon Tristram says (Ibis, 1860, p. 71) that it is "confined to the more southern portions of the Sahara, where it supplants the first species (*P. arenarius*). It is a much smaller bird. I found it only in very small companies of four or five; but this may be owing to the extreme scarcity of plants in the district where it roams. The egg is of an ashy white, with a few almost obliterated pale brown markings." Mr. Spatz met with it in Southern Tunis, where it was also obtained by Mr. J. I. S. Whitaker, who writes (Ibis, 1894, p. 97) as follows:—"During my journey I met with it only at one place, viz. at Oglet-Alima, between Gafsa and Tamerza, where it was plentiful, coming in flocks of from ten to fifty birds to drink at the water-holes made by the Arabs in the dry river-beds. I saw it first on the 12th March, when the flight commenced about 7 A.M. and lasted till nearly 10 o'clock, after which hour the birds disappeared. During the remainder of the day I only met with an occasional straggler on the plains near Oglet-Alima, and think the bulk of the birds must have gone further south towards the desert, nor did they return to drink here in the evening. The following morning, however, they were at the water-holes again in full force. They are very strong on the wing, and fly at a considerable height, uttering a loud clucking note all the time, something like that of the Common Fowl. So loud is the note, and so high do the birds fly, that they can often be distinctly heard when scarcely visible to the naked eye. Though very shy and difficult to approach, they do not leave the neighbourhood when disturbed, but return to the water-holes, or their immediate vicinity, till the hour arrives for their departure. As in *P. arenarius*, their feathers lie very closely together, necessitating heavy shot to bring them down. I secured fourteen specimens in all between males and females. The flesh of this Sand-Grouse is excellent eating, and not at all dry or tasteless, the breast having dark and light meat, the same as Blackgame.

"I was unable to ascertain whether this species breeds in the district in which I found it, but think it not unlikely."

Mr. L. Alessi says (J. f. O. 1892, p. 316) that he met with it in the spring of 1892 on his journey to Nefzeona and Djerid, and also obtained its eggs.

In Egypt and Nubia it is, according to Capt. Shelley, rare, and does not, so far as he knows, come into the Delta; and Von Heuglin states (Orn. N.O.-Afr. p. 864) that "From Southern Egypt, along the Nile valley, to about 16° N. lat., this Sand-Grouse is found in large flocks. It is generally met with in the depressions in the true desert, where steppe grass or dwarf thorn or palm bushes are found, on stone-heaps, amongst the rocks in dried-up places where rain-pools have stood, on the caravan-roads, and near the wells in the desert, even on rocky islets and dunes in or near the river, but never too far from their drinking-places. . . . Antinori refers to the occurrence of this species in Kordofan, and also at Cairo, but we did not meet with it further north than Kalabscheh and Korosko, but eastward as far as the oasis of El Kab."

Dr. Leith Adams met with it at the Second Cataract; and Mr. S. Stafford Allen states (Ibis, 1864, p. 240) that he shot a pair at El Kab. According to Mr. C. W. Wyatt (Ibis, 1870, p. 16) it frequents the plain of El Gaa and the marshes near Tor (Sinai), and is very shy and difficult to approach. Col. Miles obtained specimens at Muscat in Arabia, and it is found northward, according to Canon Tristram (Faun. & Flor. Palest. p. 122), in the Syrian desert, but is very rare there.

I do not find it recorded from Transcaspia, but it is found in Afghanistan and Persia. Mr. Blanford obtained it between Shiraz and Isfahan, on the Persian plateau, and remarks (E. Pers. ii. p. 272) that it appeared to be more common in Baluchistan than *P. senegallus*, and has been met with in Sind, but rarely, whilst *P. senegallus* is common there. Sir O. St. John states (Ibis, 1889, p. 174) that "this is the only small Sand-Grouse of Southern Afghanistan, and is very generally diffused, though nowhere numerous. It is commonly seen in small parties of half a dozen or so, and is more active on the ground than other Sand-Grouse, running about and picking up seeds like a Partridge, whereas *P. alchata* and *P. arenarius* are leisurely and staid in their gait. It breeds in the Helmund desert, for I found it common between Kandahar and the river in July." Dr. Aitchison (Afgh. Delimit. Comm. p. 85) obtained it at Sang-bar, but remarks that he did not remember seeing it after leaving the Baluchistan Desert. It is, according to Mr. Hume (Stray Feathers, i. p. 224), not uncommon in the extreme north-west of Sind, about Jacobabad; and Mr. Wise records it from Kurrachee.

According to Von Heuglin the present species closely resembles *P. senegallus* in general habits and note; but Sir William Merewether says (Str. Feath. ix. p. 200) that "the flight and cry are both quite different from those of all other species. They have a curious fluttering flight, and appear often to hover in the air, especially before settling, and their cry is a twittering one."

The eggs of the present species are two or three in number, and are deposited on the ground. Canon Tristram describes the egg as ashy white with a few almost obliterated pale brown markings, and, according to Mr. A. O. Hume (Nests & Eggs of Ind. B. 2nd ed. iii. p. 366), Lieut. Barnes found a nest containing three eggs near Chaman, Afghanistan, which were so hard set as to be unfit for specimens. They measure 1.5 by 1.06 inch.

Von Heuglin says that the breeding-season is in the months of June and July. The newly hatched young, which are sandy yellow, marked with olive-brown, black and white, soon run about with ease, and are adepts at hiding against a stone or in any slight depression in the ground, and it is most difficult to find them.

I have been doubtful as to the propriety of including the Singed Sand-Grouse (*Pterocles exustus*, Temm.), and have, after due consideration, decided to omit it, though it occurs abundantly in Nubia and parts of Egypt, and straggles even as far as the Nile Delta, but has not been recorded as having occurred in any other part of the area of which I am treating.

This species has the middle tail-feathers elongated like *P. senegallus*, but is readily distinguishable from that species in having a black and white pectoral zone, besides which it is smaller, has the primaries almost entirely black, and the abdomen dark chocolate-brown, almost black in the centre.

The pair of *Pterocles coronatus* figured and above described were kindly lent to me for that purpose by Mr. J. I. S. Whitaker.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♀. Báhu Kelat, Baluchistan, February 4th, 1872 (*W. T. Blanford*).

E Mus. Rothschild.

a, ♂ *ad.* Dongola (*Müller*).

E Mus. J. I. S. Whitaker.

a, ♂ *ad.*, *b*, ♀ *ad.* Oglet-Alima, S. Tunis, March 1893 (*J. I. S. W.*).

E Mus. H. B. Tristram.

a, ♂ *ad.* Algeria (*Parzudaki*). *b*, ♀. Waregla, Algeria, December 20th, 1856 (*H. B. T.*).



Muséum d'Hist. Nat.

PERSIAN PHEASANT
PHASIANUS PERSICUS

J. G. Keulemans del et lith

PHASIANUS PERSICUS.

(PERSIAN PHEASANT.)

Phasianus persicus, Severtzoff, Bull. Mosc. pt. 2, p. 208 (1874).

Phasianus shawi, Elliot, Ibis, 1876, p. 132.

Phasianus komarovi (nec Bogd.), Zarudny, Ois. de la Contrée Transcasp. p. 63 (1885).

Figura nulla.

Ad. capite et collo metallico-viridibus, torque nullo, ut in *P. colchico*: sed albedine alarum ut in *P. mongolico*: plumis pectoris lanceolatis, toto limbo, non solo apice, tenuissime nigro marginatis: cæt. fere ut in *P. colchico*, a quo alis et pectore præsertim differt. (*Severtzoff.*)

Adult Male (Soumbar, Transcaspia). Differs from *P. colchicus* in having the feathers on the breast and fore part of the back less rufous and more golden orange in colour; the rump and upper tail-coverts coppery red; the breast and the sides of the abdomen washed with purplish carmine; the feathers on the flanks with broader purplish-black margins, those on the breast with narrower margins; the black bars on the tail much narrower, and the lesser and median wing-coverts nearly white: bill, feet, and iris as in *P. colchicus*. Total length about 34 inches, culmen 1·2, wing 9·5, tail 19·8, tarsus 2·9.

Adult Female. Undistinguishable from the female of *P. colchicus*.

FIRST described by Dr. Severtzoff from near Astrabad, the present species has not got a very extensive range, being found in the valleys of the Atrek, Soumbar, and Tchandyr Rivers, and on the south-east of the Caspian.

Dr. Aitchison obtained a specimen at Bander-i-ghaz, on the Caspian, where, he remarks, it is said to be now rare. Prof. Bogdanoff (Consp. Av. Ross. i. p. 20) gives its range as the valley of the Atrek River, Achour-Adé, and the peninsula of Potemkine. Mr. Zarudny says (*l. c.*) that "the main portions of the mountains of the Kopet-dag, the Kueren-dag, and the Zar-i-kouh form the northern boundary of the range of our Pheasant. Within the limits of the district I explored large numbers were met with on the low bush-covered islets of the Tchirin-Tchaï and Kizil-Kan Rivers, belonging to the basin of the Atrek. I also observed them near the village of Bendessen, on the banks of a river near this basin, which disappears on the southern slopes of the Kueren-dag Mountains. In spite of the conveniences which are found on the Kulkulau and Gjarmaou Rivers and the vicinity of the sources of the Tchirin-Tchaï, I have never observed it in these localities." Again in 1890 (Recher. Zool. Transcasp. p. 105) he writes, "It is common on the banks of the Soumbar, the Tchandyr, and the Atrek, wherever the valleys on these rivers are covered with eyots of rushes, interspaced with tracts, some of which are bare and others covered with high grass. Late in August and early in September some of the adult and some of the young are fully moulted, whereas most of the young birds are still in moult. At this

season they frequent the fields which have been harvested, and one can scarcely walk five paces without driving one up. As the inhabitants of these districts seldom molest these birds, they have no fear of man, and are found in the vicinity of habitations." Messrs. Radde and Walter shot a male and two females on the 19th May on the Tchandyr, fifteen versts from Dusulum, in a high tamarisk-thicket, but did not then notice that they differed from *P. principalis*. With regard to the range of the two species, they remark (Vög. Transcasp. p. 92) that "one must agree that it is not impossible that *P. principalis*, which is the species inhabiting the Turkoman plains at the south-west foot of the Kopet-dag, may occur in the Atrek district, for the sources of the Soumbar (a tributary of the Atrek) reach close to the north side of the mountain, and are only separated from the lowlands by a comparatively low pass (Bendessen, about 3000 feet). We found the vegetation in this pass closely resembling localities which the Pheasant affects. We know also that further east *P. principalis* penetrates far into the Kopet-dag at Kelat, and in the upper part of the Derege, and occurs at greater altitudes than Bendessen. Further east, again, on the Keschefrud, it is found deep in the mountains, and in 1887, according to General Komaroff, three were killed at Kulkulau, a locality very near to the sources of the Soumbar. It is certain that a Pheasant is found at the south foot of the Kopet-dag, in the extensive gardens of Kotchan, though it is said not to occur in Mesched. It is at present, however, impossible to say if this is *P. principalis* or *P. persicus*."

As may be supposed, the Persian Pheasant does not differ in its habits from its near allies *P. colchicus* and *P. principalis*.

Its nest and eggs are described by Messrs. Radde and Walter (*l. c.*) as follows:—"On the 7/19 May, 1886, we found a nest of *P. persicus* in the valley of the Tchandyr, an affluent of the Soumbar. It was in a small grass-covered depression surrounded by hills, about $\frac{1}{4}$ km. from the river-bank in high stiff grass far from bushes. It consisted of a shallow round depression scantily lined with grass-bents and stems of plants. The eggs, nine in number, were near hatching." They describe these latter as differing considerably from those of *P. colchicus*, being stouter in shape, uniform olive-grey-green in colour, verging slightly towards leather-yellow, resembling richly coloured eggs of the Common Partridge, and measuring 42·5 millim. by 36·5 millim.

Mr. Lorenz described the Pheasant from the Talysch Valley as new, under the name of *Phasianus colchicus*, subsp. *talischensis*, and that from the mouth of the Kuban River to the Caspian under the name of *P. colchicus*, subsp. *septentrionalis* (J. f. O. 1888, pp. 571, 572). For an adult male of the latter I am indebted to Mr. Th. Pleske, of St. Petersburg, and after a careful comparison with specimens of *Ph. colchicus* I cannot find any valid character by which it can be separated from that species, and in this view Mr. Ogilvie Grant agrees with me. The latter gentleman, however, accords subspecific rank to *Phasianus talischensis* (Cat. B. Brit. Mus. xxii. p. 324), and says that it "differs from typical *P. colchicus* and resembles *P. persicus* in having the middle of the breast and sides of the belly purplish carmine, and the chest and upper parts narrowly margined with purple. It differs from *P. persicus* and resembles *P. colchicus* in the colour of the wing-coverts, which are sandy brown instead of nearly white."

I do not possess a specimen of this form, but am indebted to the Hon. Walter Rothschild for the loan of an adult male from Lenkoran, and have carefully examined the pair in the British

Museum from the Alazan River, Transcaucasia, and cannot consider this form even subspecifically separable from *P. colchicus*, and believe that it will be found, when a larger series is available for examination, that these birds are a mere variety of that species, or perhaps hybrids between *P. colchicus* and *P. persicus*. The specimen in Mr. Rothschild's collection differs from typical specimens of *P. colchicus* merely in having the breast more tinged with purplish carmine, and the bars on the tail are narrower, therein resembling *P. persicus* more than *P. colchicus*.

The specimen of *P. persicus* figured and above described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Soumbar, Transcaspia (*Grum-Grzimalo*).



Minton Bros. imp.

MURGHAB PHEASANT.
PHASIANUS PRINCIPALIS

J. G. Keulemans del. et lith.

PHASIANUS PRINCIPALIS.

(MURGHAB PHEASANT.)

Phasianus principalis, Sclater, P. Z. S. 1885, p. 322.

"*Phasianus komarovi*, Bogd.," Zarudny, Ois. de la Contrée Transcasp. p. 63 (1885).

Phasianus komarovii, Bogd. Bull. Pétersb. xxx. p. 356 (1886).

Kargooole, Tekke (*fide* Zarudny).

Figuræ notabiles.

Sclater, P. Z. S. 1885, pl. xxii.; Sharpe, Trans. Linn. Soc. ser. 2, Zool. v. pl. vii.

♂ *ad.* capite et collo metallice viridibus: torque nullo: alis extùs pro maxima parte purè albis: ventris mediis plumis in centro flavescentibus, cuprescente rubro late circumdatis: ventris lateralis plumis aurescenti-rubris purpurescanti-nigro late marginatis: plagâ ventris medii nigrâ nullâ: long. tota circa 36, alæ 10, caudæ 23 poll. Angl. (*Sclater.*)

♀ *ad.* *P. colchico* similis, sed coloribus conspicuè pallidioribus, magis ochraceo-cervino, et minus nigro-fusco notato.

Adult Male (Merv, November). Crown rich bottle-green; hind neck rich green with purplish reflections; fore part of neck rich purple, with bronze reflections on the chin and upper throat; back and scapulars rich golden orange, margined with purplish black, and with an elongated central terminal patch; rump coppery red, with narrower margins and spots; upper tail-coverts rich coppery red; quills greyish brown, the primaries barred on the inner web with warm buff, the first quill barred on both webs; secondaries marbled with buff, the innermost secondaries washed with coppery red; wing-coverts pure white; tail coppery red, narrowly barred with black; upper breast-feathers deep orange at the base, and broadly tipped with rich carmine-purple, the lower breast with broader margins of a lighter shade; the feathers bordering the abdomen resplendent coppery red, tinged with carmine-purple; flank-feathers rich golden yellow, broadly tipped with purplish black; middle of abdomen warm brown; under tail-coverts brown, tinged with coppery red: bill whitish horn; legs brown; naked skin on the sides of the face and wattles vermilion-scarlet; iris brown. Total length about 35 inches, culmen 1·3, wing 9·4, tail 22·0, tarsus 2·7.

Adult Female (Merv). Differs from the female of *P. colchicus* in being much paler, the ground-colour of the plumage being pale clay-buff, and the dark markings are rather fewer.

Young in down (about two days old, *fide* Walter). Crown and back light reddish and yellowish brown, with black stripes and elongated spots; underparts uniform yellowish white; a clearly defined black stripe passes from the base of the bill over the centre of the crown, on each side of which another similar stripe passes over the eye; sides of the head rather more yellow than the underparts; in front of the ear a curved black line passes down towards the lower mandible, and behind the ear are a few black feathers; the tail-tuft, which is about 1·5 inch long, is rather darker reddish brown than the back, with a median black line: beak yellowish; legs pale yellowish white, paler than the underparts.

Obs. According to Mr. Zarudny (Rech. Zool. Contr. Transcasp. p. 108) "these Pheasants differ considerably, *inter se*, in weight and size. The largest were met with near Lake Aïna-Gueul, in the neighbourhood of the village of Topasse (in the Merv oasis), and in the vicinity of Méroutchak. In some males the feathers on the neck have, near the end, a white band which exhibits a tendency to a white collar, but it is not visible, being hidden by the green ends of the neighbouring feathers. This collar rarely extends round the neck, and is always more developed on the hinder portion." And he further adds (*op. cit.* p. 157) that "the Pheasants from the banks of the Tedgend differ from those from the banks of the Murghab; the former have the long feathers on the sides of the abdomen, and those on the posterior portion of the throat, chiefly margined, not with violet-blue as is the case with those from the Murghab, but with deep green. In this respect the bird from the banks of the Tedgend approaches *P. chrysomelas*, in which these feathers are deep green."

THE present species, which is perhaps the most beautiful of those closely allied to our European Pheasant, inhabits Transcaspia and Afghanistan, ranging, according to Mr. Ogilvie Grant, into North-eastern Persia.

According to Mr. Zarudny (Bull. Soc. Mosc. iii. p. 813) it "inhabits the basins of the Murghab, Tedgend, the Douchak Kaakh, and along the small rivers filled with rush eyots which flow from the Déréguez and Kelat Mountains towards the north and north-east to the low Aralo-Caspian plain. It is also equally numerous along the Alikhanoff canal, and penetrates to the oasis of Merv. In summer it frequents the plains of the Tedgend and the central part of the Murghab, and is found sometimes in places covered with tamarisks, and sometimes in open spots overgrown with alchagis and other plants. In the Merv and Pindé oases it affects places where there is grass and but few bushes, situated amongst the rush eyots near the cornfields. I cannot quite fix the time when the crow of this Pheasant is first heard, but I have seen them crowing with the throat puffed out between the 1st and 12th of May. On the banks of the Douchak the call-note may be heard from the 12th May to the 20th or 25th June, but after that it becomes rarer, but may be heard now and then up to the 23rd July." Prof. Menzbier says (Ibis, 1887, p. 301) that "it is very common throughout the country about the rivers Murghab, Tedgend, and Dushak, also in the district of Kaakuk, and along the rivers running from the mountains of Deregez and Keliat to the N. and N.E., while more to the west, in the country about the rivers Atrek, Chandyr, and Sumbar, the beautiful *P. persicus* takes its place."

According to Major Yate (Ibis, 1889, p. 584) it is extremely numerous at Maruchak, on the Upper Murghab. It is, he says, "extraordinary what a number of pheasants there are in the reed-swamps of this valley, and this year they seem to be even more numerous than last. I know of no country in the world where one can get such good real wild-pheasant shooting as this. On the 21st December we brought in a bag of 72 pheasants, but, as on the first day, lost a good many wounded birds. The reeds are so thick, and the birds, especially the old cocks, so strong, that it is very hard to bag one's bird even after it is shot."

Dr. Aitchison says (Trans. Linn. Soc. ser. 2, Zoology, v. p. 86) that "the specimens of this Pheasant were all got on the banks of the Bala-murghab, where it occurs in considerable numbers in the tamarisk and grass jungle growing in the bed of the river. More than 400 were killed in the march of 30 miles up this river. It not only wades through the water in

trying to make from one point of vantage to another, but swims, and seems to be quite at home in these thickets, where there is always water to the depth of two or three feet. These swampy localities afford good shelter. In the mornings and evenings the Pheasants leave it for the more open and dry country, where they pick up their food. I believe the same species is found on the Hari-rud River, but I have seen no specimens from that locality."

In its habits and mode of nidification the Murghab Pheasant does not differ appreciably from *P. colchicus*. Mr. Zarudny writes (*l. c.*) that during the pairing-season "when crowing it prefers to perch on a bush or a mound, always near the water, for during this season of intense excitement it drinks and bathes even during the intervals of its crow or song. Its crow is accompanied by a slight characteristic sound produced by the wings like that when it takes wing. It calls very early in the morning and towards the evening, very seldom during the heat of the day, and more seldom at night. The crow, which is uttered singly, consists of two syllables uttered almost together. When uttering the call it looks sharply about searching for the females, now and then jumping up a couple of feet from the ground, and it is then very difficult to approach within gunshot of it. When it catches sight of a female advancing towards the place where she hears the crow, the male dashes impetuously after her until she allows herself to be caught. At times when a male approaches instead of a female a sanguinary fight ensues between the rivals. Once a Turcoman potter brought me two Pheasants which he had caught with his hands during a similar fight. The male Pheasant lives together with several females, which he does not leave during the time of incubation, and goes about afterwards surrounded by their united families.

"In June, July, and August these birds are in full moult, and late in August I have seen young birds which have almost attained the adult dress, and again in the second half of July I have killed young birds which were not larger than a Moorhen. When the young are hatched the female remains alone with them until the whole brood from one and the same nest is united, and then they wander from place to place under guidance of the male. Between the 22nd July and the 1st August I saw along the Alikhanoff canal flocks of young Pheasants each consisting of about fifty individuals. They feed on seeds of various plants, grain not yet harvested, and insects. They frequently visit the water-melon plantations, on which they make great havoc. In the morning and evening they are fond of going on the roads and paths, where they find beetles and orthoptera. During the heat of the day they go to drink, and are then easily obtained.

"Its nest is made under a bush, generally under a last year's *alchagi* plant, bent by the wind, and consists of a depression scratched in the soil and lined with dry bents, down, and feathers. I have frequently found Pheasants' nests containing from seven to eleven strongly incubated eggs between the 22nd May and the 1st June."

Mr. Walter says (Vög. Transcasp. p. 93) that he "frequently found nests of this Pheasant in the Murghab district in 1887. All these nests were in low tamarisk-thickets, especially where *asparagus* grew, and less frequently under last year's growth of *alchagi*. In construction they resembled the nest of *P. persicus*, only that when placed near the river-bank I found reed foliage made use of. Two out of three nests I found near Sary-jasi, on the 10th April, 1887, contained nine, and one five, fresh eggs, but, according to the officers quartered there, up to eighteen are

found in a clutch. The eggs, as I then noted down, closely resembled those from Tchandyr, but some were more pointed, although not more elongated than those. Frequently in clutches of normal eggs one is found quite small, only as large as that of *Caccabis*, yellowish in colour, with minute reddish spots. A somewhat aberrant nest I found on the 9th April, 1886, at Ljutfabad, close to the Persian frontier. On a dry elevation on the edge of large patches of close high reeds the nest was situated in a close thicket of last year's *Glycirrhiza* plants, and under a few wind-broken stems of that plant. The nest was scratched out deep in the ground, and was of an elongated oval shape, like the body of the bird, and the high sides were closely covered with dry flags and stems. The nest contained then no egg; but as the female sat close, and let herself be driven off it three times in the day, it is probable that she would have laid on the following day."

The specimens figured and described are the adult male and female in my own collection.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Merv, Transcaspia, November (*Pleske*). *b*, ♂, *c*, ♀. Merv, winter 1887 (*Grum-Grzimalo*).



J. G. Keulemans del. et lith.

Mintern Bros. imp.

SENEGAL. FRANCOLIN.
FRANCOLINUS BICALCARATUS.

FRANCOLINUS BICALCARATUS.

(SENEGAL FRANCOLIN.)

- Tetrao bicalcaratus*, Linn. Syst. Nat. i. p. 277 (1766).
Le Bis-ergot, Buff. Hist. Nat. Ois. ii. p. 443 (1783).
Senegal Partridge, Latham, Gen. Synop. ii. p. 757 (1783).
Perdix bicalcarata, id. Ind. Orn. ii. p. 643 (1790).
Perdix senegalensis, Bonn. Tabl. Encycl. et Méthod. i. p. 212 (1790).
Perdix adansonii, Temm. Hist. Nat. Pig. et Gall. iii. p. 305 (1815).
Francolinus senegalensis (Bonn.), Steph. in Shaw's Gen. Zool. xi. part 2, p. 330 (1819).
Chætopus adansonii (Temm.), Swains. B. of W. Africa, ii. p. 217 (1837).
Francolinus bicalcaratus (Linn.), Gray, List Gall. B. iii. p. 33 (1844).
Didymacis senegalensis, Reichenb. Handb. Gall. fig. 1768 (1853).
Francolinus albiscapus, id. op. cit. figs. 1753–54 (1853).
Chætopus bicalcaratus (Linn.), Bonap. Compt. Rend. xlii. p. 882 (1856).
Hadjel es Sahâra, Rarágh, Arabic.

Figuræ notabiles.

D'Aubenton, Pl. Enl. 137; Reichenbach, ut suprâ.

♂ *ad.* pileo brunneo, antice et lateraliter nigro marginato : superciliis albis : nuchâ rufescente : dorsi plumis medio nigris, rufescente marginatis et albedo variegatis : remigibus nigricantibus in pogonio externo cervino albedo notatis et in pogonio interno cervino striatis vel fasciatis : caudâ nigro-fuscâ, rufescenti-cervino variegatâ : mento albo, corporis inferioris plumis albidis, maculâ scapali nigrâ, striâ utrinque laterali rufescenti-cervinâ : tarso bicalcarato.

♀ *ad.* mari similis.

Adult Male (Rabât). Fore part of the crown and a stripe on each side black; rest of the crown reddish brown; hind neck and fore part of the back varied black and reddish brown, the feathers margined with creamy white; rest of the upper parts brown, vermiculated with black; the scapulars and wing-coverts with a submarginal creamy-white stripe on either side; most of the quills with the outer web brown, barred with warm buff, and the inner web brown, irregularly barred with rufous buff; tail dark brown, clouded and irregularly barred with rufous buff; superciliary stripe and space in front of the eye white; chin and upper throat white, clouded with greyish brown; sides of the head white, striped with blackish; chest and underparts generally buff, with a drop-shaped median spot towards the tip black, barred with buff, and on the basal half broadly bordered with chestnut, this latter colour wanting on the lower flanks and under tail-coverts, and the central black patch is larger: bill yellow, but dull greenish at the base; the culmen darker; legs dull greenish yellow; iris brown. Total length about 12 inches, culmen 1.15, wing 7.3, tail 3.25, tarsus 2.6.

Adult Female (Rabât). Closely resembles the male, but lacks the spurs. Wing 6·4 inches, tail 3·0, tarsus 2·1.

A RESIDENT species in West Africa, the present Francolin occurs only within the extreme south-western limits of the Western Palæarctic area. Its range extends from Morocco down to the Niger. Capt. S. G. Reid (*Ibis*, 1885, p. 251) says that specimens have been received from Mogador, where it appears to be common, and that "Olcese received a consignment of six live ones from near Casa Blanca this winter, and tried hard to keep them alive. They all died however, probably from the unusual severity of the winter, and were converted into skins, one of which I brought home with me." Col. Irby also remarks that this is no doubt the species mentioned by Mr. Drake, and occurs as far north in Morocco as Rabât. Swainson records it from Senegal. Governor Ussher obtained it at Accra, on the Gold Coast, where, according to Messrs. Shelley and Buckley (*Ibis*, 1872, p. 290), it is sufficiently numerous to afford fair sport; and Governor Ussher adds (*Ibis*, 1874, p. 72) that it is common all over the Gold Coast. The late Mr. W. A. Forbes recorded it (*Ibis*, 1883, p. 518) from Egga, on the Niger, and a male obtained by him at Shonga, on the Niger, is now in the British Museum.

I find nothing on record respecting the habits of the present species beyond what is given by Governor Ussher, who says (*l. c.*) that "they are found (on the Gold Coast) in coveys of from four or five to a dozen. They frequent cassava-plantations, and do much damage to young plants, as also to ground-nuts and maize.

"Towards sunset the loud cry of the male bird is heard, and he can be observed, generally stationed in a commanding position on the top of an ant-hill or low tree, calling together his family.

"They are fine birds, and afford good sport, as well as excellent food for the table. Unless killed dead, they generally manage to drag themselves through the grass, and are almost impossible to find; and as they are very strong on the wing, not more than fifty per cent. of those killed can generally be brought to bag."

Lord Lilford has received this Francolin alive from Morocco, and has at present several in his aviary at Lilford Hall, where I have seen them. In 1894 a female laid five eggs, out of which four young were hatched and successfully reared, and he informs me that the late Comte de Paris turned out several of these birds, which he (Lord Lilford) procured for him from Morocco, in his "Coto" near Villa Manrique, where, up to the last accounts received, they were doing well, but had not then had time to breed.

I find nothing on record respecting the nidification of this Francolin, but it doubtless, like its congeners, makes its nest on the ground amongst the grass or bushes.

I am indebted to Lord Lilford for two eggs of this Francolin laid in the aviary at Lilford Hall in 1879 by birds from Rabât, presented to him by Mr. T. Reade, H.M. Consul at Cadiz. These eggs are uniform creamy buff in colour, rather pointed towards the smaller end, but otherwise shaped like those of the Pheasant, and measure 1·86 by 1·40 inch, and 1·92 by 1·43 inch respectively. They are dull in texture, and entirely lack the gloss on the eggs of the Pheasant.

The Plate of this species is drawn from a sketch taken by Mr. A. Thorburn of a live bird

in the aviary at Lilford Hall, and the descriptions are taken from specimens in my own collection, for which I am indebted to Lord Lilford.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. Rabât, Morocco, February 1888 (*Olcese*).

E Mus. H. B. Tristram.

a, ♀. Brit. Combo, Gambia, April 24th, 1889 (*P. Rendall*).



J.G. Keulemans lith

Hart 1890

MENZBIERS HAZELGROUSE.
BONASA GRISEIVENTRIS.

BONASA GRISEIVENTRIS.

(MENZBIER'S HAZEL-GROUSE.)

Tetrastes gryseiventris, Menzbier, Bull. Mosc. lv. pt. 1, p. 105, pl. iv. (1880).

Tetrao griseiventris (Menzb.), Seebohm, Ibis, 1884, p. 430, pl. xi.

Tetrastes griseiventris, Menzb., Grant, Cat. B. Brit. Mus. xxii. p. 93 (1893).

Figuræ notabiles.

Menzbier, ut suprâ; Seebohm, ut suprâ.

♂ *ad.* corpore suprâ saturatè griseo-schistaceo, pileo saturatiore plumis nigricante fasciatis: uropygio et supracaudalibus saturatè griseo-schistaceis, indistinctè fasciatis: scapularibus et secundariis intimis nigro et rufescenti-fusco marmoratis: tectricibus alarum griseo-fuscis, griseo-schistaceo et sordidè cervino marmoratis: remigibus fuscis, in pogonio externo rufescenti-cervino marmoratis: caudâ ut in *B. betulina*, sed nec albo apicatâ et fasciâ nigrâ subterminali indistinctâ: striâ pone supraoculari et mento albis: gulâ nigrâ, indistinctè rufescente notatâ: collo et pectore griseo-schistaceis, rufescente notatis et nigro transfasciatis: corpore reliquo subtùs saturatè griseo indistinctè nigro-fasciato, hypochondriis rufescente tinctis: rostro nigricanti-corneo: pedibus griseo-fuscis: iride fuscâ.

Adult Male (Tscherdyn, October). Upper parts dark grey, the feathers on the head and back barred with blackish, the head rather darker; rump and upper tail-coverts dark grey, with indistinct darker bars; scapulars and some of the inner secondaries marbled with black and reddish brown; wing-coverts brownish grey, marbled with dark grey and dull warm buff; quills dark brown, the outer web marbled with warm buff; tail as in *B. betulina*, but without the white tip and the black subterminal band, this latter being barely indicated; a streak extending backwards from above the eye and chin white; throat black, slightly marked with dark rufous; neck and breast grey, barred with black and marked with rufous; rest of the underparts grey, indistinctly barred with black; the flanks tinged with rufous: bill blackish horn; feet greyish brown; iris brown. Total length about 14 inches, culmen 0·9, wing 6·6, tail 4·8, tarsus 1·35.

Adult Female (Tscherdyn, October). Differs from the male merely in having less grey and more brown in the plumage, the head and neck especially being more boldly marked with black and reddish brown, and the tone of colour on the underparts is more of a sandy or buffy grey, and not so clear grey as in the male.

Obs. In both the males in my own and the Rothschild collections the white patch on the chin is small, and the white streak above and behind the eye, which is very clearly defined in both the male and female above described and figured, is entirely wanting, and I think it probable that these are immature birds.

THIS Hazel-Grouse, so far as we know at present, is found only in North-eastern Russia, west of the Ural range, chiefly in the Perm and Olonetz Governments. It was at first looked on by

many ornithologists as being an accidental variety of *Bonasa betulina*, but inasmuch as more than thirty specimens have been obtained, this cannot be the case, and it must be treated as a valid species. It is readily distinguishable from *B. betulina* not only by its dark coloration, but in lacking all the white markings on the sides of the neck, round the black patch on the throat, and on the scapulars and wing-coverts, and the markings and general colour of the underparts are very different. Nothing appears to have been recorded by the Russian ornithologists regarding its habits or nidification, but it does not, in all probability, differ from *B. betulina* in these respects.

When the article in the 'Birds of Europe' on *Bonasa betulina* was written, twenty-five years ago, I had but a meagre series of specimens available for comparison, and was unable to say whether the Asiatic bird differed from that found in Europe. Since then, however, I have examined specimens from Siberia, Manchuria, and Japan, and have added largely to the series in my own collection, and am able to say that the Hazel-Grouse from Siberia, Manchuria, and Japan does not differ in any respect from the Scandinavian bird, and I understand, also, that there is no difference in specimens from Kamtschatka. I have received specimens from Professor Menzbier, of Moscow, obtained in Russia, and labelled *Tetrastes canescens*, which are merely very fully adult examples, and do not in the least differ from old birds obtained in Sweden. I cannot find where he has described the bird under that name, and the earliest reference to it that I have been able to unearth is in his Orn. Geogr. of European Russia (in Russian), p. 180 (1882), where the name is given without any description. On the other hand, the Hazel-Grouse from Germany and Southern Europe is invariably distinguishable from the Scandinavian bird in being much more rufous and less grey in tone of colour, but I agree with my friend Mr. Ogilvie Grant in not according specific rank to this form. An adult male from near Coblenz, on the Rhine, as compared with a male from Sweden, has the upper parts generally rufous, barred with black, not grey as in the Swedish bird, and the feathers on the upper breast and flanks are bright rufous, almost light fox-red, tipped with white, and slightly marked with black, but otherwise the general pattern of the plumage is the same as in the Scandinavian bird.

The specimens figured and described are a pair lent to me for that purpose by my friend the late Mr. Henry Seebohm, whose collection has been bequeathed by him to the British Museum.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Olonetz, N. Russia, September 1890 (*Prof. Menzbier*).

E Mus. H. Seebohm.

a, ♂, *b*, ♀. Tscherdyn, Perm Gov., October (*Menzbier*).

E Mus. Rothschild.

a, ♂. Olonetz, September (*Lorenz*).



Illustration de l'original.

URAL CAPERCAILLIE.
TETRAO URALENSIS.

Mintern Bros. imp.

TETRAO URALENSIS.

(URAL CAPERCAILLIE.)

"*Tetrao urogallus*, var. *uralensis*, Severtz. & Menzb.,” Nazarovf, Bull. Mosc. lxii. part 2, p. 365 (1886, desc. null.).

Tetrao urogallus, var. *uralensis*, Menzbier, Ibis, 1887, p. 303.

Tetrao uralensis, Menzb., Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 65 (1895).

Figura nulla.

♂ *ad.* *T. urogallo* similis, sed ubique pallidior et magis cinereo, caudâ conspicuè albo notatâ, et abdomine albo lateraliter vix nigro notato.

♀ *ad.* *T. urogallo* similis, sed conspicuè pallidior, corporis plumis suprâ conspicuè albo marginatis: abdomine albo vix nigro et rufescenti-aurantiaco notato.

Adult Male (Leadenhall Market, February 3rd). Upper parts very much paler and greyer than in *T. urogallus*; on the wings there is less reddish brown, and it is lighter in shade; tail-coverts broadly tipped with white; tail-feathers conspicuously marked with white, and not altogether black as in *T. urogallus*; abdomen white, slightly marked on the sides and upper part with blackish; under tail-coverts black at the base, and broadly margined and tipped with pure white; feathers on the legs white, but slightly marked with greyish. Total length about 35 inches, culmen 2·4, wing 15·5, tail 12·25, tarsus 3·2.

Adult Female (Werchnevralsk, December). Differs from the female of *T. urogallus* in being much paler, the feathers on the upper parts with broad white margins, the abdomen white, with but few of the black and pale rufous markings, the lower abdomen nearly pure white.

THE present species inhabits, according to Professor Menzbier (Ibis, 1887, p. 302), “only the pine- and birch-woods in the country of the southern branches of the Ural. Its breeding-range is limited, probably, on the west and north by the river Belaja, and on the north by the river Ui.” Mr. Nazarovf, who appears to have first noticed the difference between this form and *Tetrao urogallus*, gives (*l. c.*) the same particulars of its range as Prof. Menzbier, and adds that it is difficult to determine its northern limit, but that typical *Tetrao urogallus* is to be met with in the vicinity of Verchné-Ouralsk, not far from Ekaterinburg.

Prof. Menzbier says that the present species resembles the Black Grouse more than the typical Capercaillie in its general habits; and Mr. Nazarovf writes (*l. c.*) as follows:—“This Capercaillie inhabits mixed forests, preferring old forests where there is under-brush. All the gunners agree that the call of the White-bellied Capercaillie differs from that of the typical species, and I have received the following information on the subject:—The cocks commence to call late in March as soon as the snow begins to melt, and at the end of April they cease to call,

and the females commence to lay. During this season they select marshy places covered with aspen and conifer trees. At about two o'clock in the morning the males resort *on foot* to the place where they call and fight; the cock that has not found an adversary remains as a spectator, and the combatants strike each other with their wings, seize each other by the neck, uttering their characteristic note or cry. During the time they are calling the males are very unwary and may be approached with ease. As to the females, they act only as spectators of the combat, perched high in the trees, and afterwards rejoin the males. About fifty or more males assemble in the arena, and at sunrise the calls cease and the birds leave. A gunner can shoot in one morning more than five cocks. This description of the White-bellied Capercaillie has been confirmed to me by Mr. Beck, the forest superintendent of the Kananikolsk Works, an excellent sportsman and worthy of all confidence. The call of this species appears to resemble that of the Blackcock."

Beyond the above notes, I find nothing on record respecting this bird. In 1891 a few were exposed for sale in the London market, and in February and March 1892 a considerable quantity were sent over here for sale. I tried to find out whence they came, but without success, and all I could ascertain was that they were sent over by a St.-Petersburg dealer, the same man, I believe, who last year sent a large consignment of Daurian Partridges (*Perdix daurica*) to Leadenhall Market.

The specimen figured is the male above described, and is in my own collection.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂, *b*, ♀. Werchnevralsk, Russia, November and December (*Prof. Menzbier*). *c*, ♂ *ad.* Purchased in the flesh in Leadenhall Market, February 3rd, 1892 (*H. E. D.*).



U. S. National Museum

Hanhart imp.

INDIAN GALLINULE.
PORPHYRIO POLIOCEPHALUS.

PORPHYRIO POLIOCEPHALUS.

(INDIAN GALLINULE.)

- Porphyrio veterum*, S. G. Gmelin, Reise Russl. iii. p. 79, footnote, pl. 12 (1774).
Gallinula poliocephala, Lath. Ind. Orn. Suppl. p. lxxviii (1801).
Grey-headed Gallinule, Lath. Gen. Synops. Suppl. ii. p. 375 (1802).
Fulica porphyrio, Pall. Zoogr. Ross.-As. ii. p. 156 (1811).
Porphyrio poliocephalus (Lath.), Vieill. Nouv. Dict. xxviii. p. 30 (1819).
Porphyrio smaragnotus (nec Temm.), Sykes, P. Z. S. 1832, p. 165.
Porphyrio hyacinthinus (nec Temm.), Nordm. in Démidoff's Voy. Russ. Mérid. iii. p. 275 (1840).
Porphyrio indicus (nec Horsf.), Gray, List Grallæ &c. Brit. Mus. p. 120 (1844).
Porphyrio neglectus, Schlegel, Mus. Pays-Bas, *Ralli*, p. 53 (1865).
Porphyrio cæruleus (nec Vandelli), Seebohm, Ibis, 1882, p. 227.
Porphyrio veterum, Radde, Orn. Cauc. p. 380, pl. xxi. figs. 3, 4 (eggs), pl. xxiv. ♂ (1884).
Sultanka, Russian; *Bojachana*, Tartar (*Radde*); *Keim*, *Kaima*, *Kalim*, *Kharim*, Hindostanee; *Kem*, Bengalee; *Nila Bola-kodi*, Telugu (*Jerdon*); *Kittala*, Sinhalese (*Layard*); *Indura-kukula*, in Southern Province; *Sannary*, Ceylonese Tamils (*McVicar*).

Figura unica.

Radde, Orn. Cauc. Taf. xxiv.

Ad. saturatè ultramarino-cæruleus, alis viridi tinctis: caudâ nigrâ, rectricibus in pogonio externo saturatè cæruleo tinctis: pileo cærulescenti-cinereo: capitis lateribus cinerescentibus et collo cinereo lavato: pectore viridi-cæruleo lavato, hypochondriis magis cæruleis: subcaudalibus albis: rostro et scutello frontali saturatè rubris: pedibus incarnato-rubris: iride rubrâ.

Adult Male (Lenkoran, January 16th). Upper parts generally rich deep blue, the wings slightly washed with greenish; tail black, the feathers externally washed with blue; crown ashy blue; sides of the head ashy, and the neck tinged with ashy grey; underparts deep blue, the breast tinged with greenish blue; the flanks bright blue; under tail-coverts white: bill and frontal shield dark red; legs and feet red, the joints of the knees and toes blackish brown; iris red. Total length about 17·5 inches, culmen with frontal shield 2·85, wing 11·0, tail 4·25, tarsus 4·05.

Adult female (Lenkoran, January). Does not differ from the male in plumage. Total length about 16·0 inches, culmen with shield 2·75, wing 10·7, tail 4·2, tarsus 3·80.

Young (bird of the year, *vide* Col. Legge). Face, throat, and neck more tinged with green than in the adult; the back of the neck and head brownish, with the feathers here and there tipped with greyish; the back and wings sombre greenish blue, passing into brown on the rump and upper tail-coverts, the feathers with pale tips; the greenish-blue chest-feathers are likewise pale tipped, and the blue on the under surface is not so pure as in the adult, with the edges of the feathers greyish; thighs cinereous

bluish, with light edges to the feathers; iris pale red, with the inner edge mottled with brown: bill red; legs and feet reddish, with the joints brownish.

Young in down (fide Mr. H. Parker) covered with black hairs; bill white, the sides at the base crimson; casque purple or lilac; legs reddish purple, toes lilac; spur on the winglet lilac and very prominent.

WHEN, in 1876, I published in the 'Birds of Europe' (vii. p. 299) the article on the Purple Gallinule, I was under the impression that the common European Purple Gallinule's range extended as far east as the Caspian, as, indeed, it was then stated to be the case by all authorities on European ornithology. Since then, however, I have received examples from the Caspian, and have convinced myself that the species found there is identical with the Indian Gallinule, *Porphyrio poliocephalus*; and as Gmelin's specific name of *veterum*, which I used for this and the South-European species when I considered them to be identical, cannot stand, this present species will stand as *Porphyrio poliocephalus*, and the *Porphyrio* which inhabits Spain, Algeria, Sardinia, and Sicily will, as shown by Dr. Selater (*Ibis*, 1879, p. 196), stand as *Porphyrio cæruleus* (Vandelli).

The range of this species extends just within the limits of the Western Palæarctic area on the shores of the Caspian, and occurs eastward throughout the whole of India and Ceylon, and is found throughout Burmah.

Dr. G. Radde says (*Orn. Caucas.* p. 381) that he only met with it in the vast reed-beds of Lenkoran, where it is a resident, and is often very numerous to be met with during the winter. Pallas (*Zoogr. Ross.-As.* ii. p. 157) records it from the Terek River, but it has not been observed there by any later explorer. Dr. Radde remarks that he has seen specimens from the Lower Volga, and (*Vög. Transcasp.* p. 97) that according to Mr. Jasewitsch it occurs numerously on Lake Delili on the Lower Atrek, and that Mr. Nikolsky speaks of a *Porphyrio* as being found at the mouth of the Gürgen.

Mr. Blanford did not meet with it in Persia, but states that there is a specimen from Bagdad in the British Museum. Both Col. Swinhoe and Sir O. St. John met with it at Quetta in Afghanistan, and the former records it from Kandahar, and Mr. A. O. Hume says (*Stray Feath.* i. p. 249) that it is exceedingly abundant in some of the rush-overgrown lakes of Sindh. According to Dr. Jerdon it is "found throughout India and Ceylon wherever there are reedy lakes, extensive marshes, or reedy rivers," and Blyth states that it is to be met with on the eastern side of the Bay of Bengal to the Tenasserim provinces. Mr. Oates (*B. of Brit. Burmah*, ii. p. 351) writes that it is "found over the whole of Burmah except perhaps the southern half of Tenasserim, where Mr. Davison does not appear to have met with it."

In Cochin China, Saigon, and Bangkok an allied species is said to occur, *Porphyrio edwardsi*, Elliot, which, Mr. Elliot says (*Stray Feath.* vii. p. 23), "differs from *P. poliocephalus* in being darker on the back of the head, in having the blue of the breast of a darker shade, and specially in having the upper parts, including the wings, greenish black, instead of the purple back and rump and greenish-blue wings of *P. poliocephalus*." Swinhoe mentions, under the name of *Porphyrio cælestis*, another species from Southern China, which he describes as resembling *P. poliocephalus*, but having a white rump; but this is considered to be a doubtful species, or perhaps it may be a partial albino.

In its habits the present species closely assimilates with its congeners, *Porphyrio caeruleus* and *P. smaragdnotus*, and, like those, inhabits only the dense reed-beds and places overgrown with aquatic herbage.

Speaking of its habits as observed at Lenkoran on the Caspian, Dr. G. Radde (*l. c.*) writes that "it is as stupid as a Coot. It is averse to leaving the densest reed-thickets and can easily be caught alive in these. Its flight is low and direct and it is an easy bird to shoot. It seeks to escape by running, and is averse to taking wing; the steps it takes are long, being a foot in length; when running it cocks its short tail up so that the white under tail-coverts are seen, and it jerks its tail continually even when otherwise quite motionless, in this respect much resembling *Rallus*, which it resembles greatly when running. Its chief weapon is the heavy bill, and the foot is much used in holding its food when parrot-like it stands on one leg. At times this bird collects in large flocks, and on the 16th December about 150 were observed leaving one reed-bed for another not far distant, running swiftly over the narrow meadow which divided the two. They ran like Coursers, with the neck stretched out, over the open ground, where they evidently felt unsafe, and some when scared up settled on a willow, forming a lovely picture." In Ceylon, Col. Legge writes (*B. of Ceylon*, p. 797), it is "so partial to rush-beds and waters which are overgrown with reeds and impenetrable sedge-growth, that it is only found in such spots, not inhabiting (owing solely to an absence of such cover) many places where one would expect to find it. It is, again, a very sociable bird, being quite gregarious in its habits; and this is another cause which confines it to localities where there is feeding-ground and cover for large numbers of its fellows. In a neglected tank like Topare, through which the floods speedily pass, but leave a large area of shallow water, which in tropical climates speedily becomes a tangled mass of lotus-reeds, rushes, aquatic plants, and shrubs, the Purple Coot finds a perfect paradise; and dozens may be seen stalking unconcernedly about on the floating leaves and herbage, violently jerking up their tails and showing the conspicuous white under-coverts, keeping all the while well out of shot and appearing to know that the swarms of crocodiles lurking about them are the best safeguard against the sportsman wading in within killing distance of them. In spite of crocodiles, however (which in these marshy places belong to the smaller species, *Crocodilus palustris*, which average about 8 to 10 feet in length, and are not dangerous), I have frequently waded for a long time, in search of other and more valuable species, through the haunts of the Blue Coot, and then I observed that he mysteriously disappeared into the surrounding vegetation and remained in concealment until after my retreat. When put on the wing it flies well and swiftly. I have seen one flying round and round the lotus-pond at Colombo many times before alighting, its long legs stretched out behind him like a Heron's. At the Tamara Kulam, near Trincomalie, the dense rush-growth of which was tenanted by swarms of these Coots, their hiding-place was burnt down once a year by natives, and then they disappeared for some time, making their way probably through the jungle to other haunts in the neighbourhood."

This Gallinule is said to feed on seeds and vegetable matter, and to be especially fond of rice. Its call-note is loud, and, according to Jerdon, somewhat fowl-like. Captain Butler writes that one he saw seized by an Eagle cried out piteously, making a noise very like the cries of a domestic fowl when caught to be killed.

The season of nidification throughout India and Ceylon is said to be July and August; but Dr. Radde had eggs brought to him at Lenkoran late in April, and Mr. Parker (Ibis, 1886, p. 187) surmises that in the south-east of Ceylon this Gallinule has two broods in the year.

Mr. A. O. Hume, in his 'Nests and Eggs of Indian Birds,' 2nd ed. iii. p. 384, gives the following account of its nidification:—"The Purple Coot breeds all over the plains of India wherever there are large swamps and jheels with plenty of rush and weed. As a rule, not less than ten pairs breed in the same place. I have invariably in Northern India found the eggs in July and August, never earlier or later; but they are said to have been met with in June and September.

"Two noteworthy points are (1st) that all the birds in the same swamp both lay and hatch off about the same time; (2nd) that in two different jheels only a dozen miles apart, and apparently precisely similarly situated, there will be a difference of fifteen days or more in the period of the laying of the two colonies. Thus I have noted that one year, on the 10th August, I found every one of over a dozen nests in the Atchuldy jheel empty and the young hatched off; while on the 16th of the same month at Rahun, distant some twenty miles only, I found seventeen nests full of eggs—mostly a good deal incubated it is true, but none ready to hatch off for at least a week.

"The nest is made of pieces of rush and reed amongst thick grass and rice. Sometimes it is on the ground, sometimes, though not free, it is floating. In the latter case the bottom of the cavity will not be above an inch or two above the surface of the water, but there will be a mass of stuff submerged. Ten is the maximum number of eggs that I have as yet found in any nest, and I have repeatedly taken seven and eight well-incubated ones."

Latterly the eggs of this Gallinule have come in considerable numbers into the hands of dealers here in Europe, and are not unfrequently made to do duty for the rarer eggs of *Porphyrio caeruleus*. I possess four eggs from Sikkim which have the ground-colour clay-buff, and are spotted and blotched with purplish-grey underlying markings and deep brownish-red surface spots, and measure from 1.9 by 1.4 inch to 2.0 by 1.42. Compared with the eggs of *P. caeruleus* the ground-colour is paler, and the markings are fewer and smaller, and they are somewhat smaller in size.

The specimen figured is the male above described and is in my own collection.

In the preparation of the above article I have examined, besides the large series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Lenkoran, January 16th (*Schlüter*). *b*, ♂, *c*, ♀. Lenkoran, January 1888 (*Schlüter*). *d*, ♂. Lenkoran, December 1887 (*Dr. G. Radde*).



W. J. A. del. et lith.

5
SARUS CRANE.
GRUS ANTIGONE.

Mintern Bros. imp

GRUS ANTIGONE.

(SARUS CRANE.)

The Greater Indian Crane, Edw. Nat. Hist. Birds, i. p. 45, pl. 45 (1743).

La Grue des Indes Orientales, Brisson, Orn. v. p. 378 (1760).

Ardea antigone, Linn. Syst. Nat. i. p. 235 (1766).

La Grue à collier, Buff. Nat. Hist. Ois. vii. p. 307 (1780).

Grus collaris, Bodd. Tabl. des Pl. Enl. p. 52 (1783).

Grus torquata, Vieill. Nouv. Dict. xiii. p. 560 (1817).

Grus antigone (Linn.), id. ut suprâ (1817).

Grus orientalis, Frankl. P. Z. S. 1831, p. 123.

Antigone antigone (Linn.), Bp. Consp. Gen. Av. ii. p. 100 (1857).

Antigone collaris (Bodd.), Sharpe, Cat. B. Brit. Mus. xxiii. p. 262 (1894).

Figuræ notabiles.

Edw. Nat. Hist. B. i. pl. xlv.; D'Aubenton, Pl. Enl. 865; Reichenb. Handb. Fulic. tab. cxxvii. fig. 428, tab. cxxix. figs. 1235, 1240; Hume & Marshall, Game B. of India, iii. pl. i.

Ad. capite et collo supero nudis, gulâ cum nuchâ posticâ et lateribus setis nigris tectis: regione paroticâ plumis cinereis tectus: collo infrâ portionem nudam albo cincto: corpore suprâ cum collo inferiore cinereo-ardesiaco: tectricibus alarum cinereo-albis, secundariis intimis elongatis ferè albis versus apicem: remigibus nigro-fuscis: caudâ cinereâ: corpore subtùs cinereo-ardesiaco, subcaudalibus pallidioribus: rostro pallidè viridi-corneo, apice saturatiore: pileo albo: capite reliquo et collo rubris, collo in parte inferiore nudâ aurantiaco: iride aurantiacâ: pedibus rubro-carneis.

Adult (Sambhur, January 10th). Head and upper neck bare, the throat, sides, and hind neck covered with numerous black bristly hairs, the ears covered with a patch of ashy-grey feathers; the feathers on the neck below the bare portion white for about two inches, and then merging into ashy grey; upper parts generally ashy grey, becoming whiter on the wing-coverts and on the terminal portion of the inner secondaries, which are nearly white at the tips, and are considerably elongated, reaching beyond the tail; quills blackish brown; tail ashy grey; underparts generally ashy grey, paler on the under tail-coverts: bill pale greenish horny with dark tip; skin on crown white; papillose skin of head and neck orange-red, shaded darker here and there, and furnished with a scanty black wattle; at the bottom of the neck, bordering the plumage, is a collar-like space of bright orange skin; iris orange; legs reddish or flesh-colour, darker on the joints. Total length about 42 inches, culmen 7·1, wing 26·5, tail 9·6, tarsus 11·4.

THE Sarus Crane is only a rare straggler to the Western Palæarctic area, and has not been met with west of Russia. Professor Menzbier informs me that it was first recorded by Eversmann as occasionally visiting the steppes in the Government of Astrachan, and is, according to Karelin, a

very rare straggler to the neighbourhood of Guriëff, at the mouth of the Ural River, and during sixteen years it was met with on only three occasions, and one was shot and preserved.

Von Nordmann (in Démidoff's Voy. Russ. Mérid. iii. pp. 265, 266) says that during the five years previous to when he wrote it had only, so far as he knew, been twice observed in that district. He himself never saw the bird alive, but received specimens killed at Rostoff on the Don. Finally, it is recorded by Dr. Radde (Orn. Cauc. p. 391), on the authority of General Komaroff, who lived several years at Derbent, on the west coast of the Caspian, as occurring there on passage.

I have not been able to obtain a specimen killed within the Western Palæarctic area for examination and comparison; and Mr. Blanford informs me that in India it is so strictly resident that he greatly doubts whether it really has occurred as far west as Russia. Thus I had grave doubts as to whether I should include it, and only decided on so doing after being assured by Professor Menzbier that it really has been obtained as far west as the Ural. I do not find it recorded from Transcaspia or Persia; but according to Dr. Jerdon (B. of India, iii. p. 663) the Sarus is found throughout the greater part of India, is rare south of the Godaveri, and also apparently in the Punjab, for Adams states that he did not see it there, but common in Central India, Bengal, and parts of the N.W. Provinces, and still more so in Kandeish. It has been also recorded by various subsequent writers from various parts of India: by Beavan from Umballa and Barrackpur; by Capt. Hayes Lloyd as common at Kattiawar; by Mr. A. O. Hume from Sind, where it is rare; by Mr. R. M. Adam from the Sambhur Lake, where it breeds; by Mr. V. Ball as rare in Manbhum, but common in the open valleys of Sirguja; by Capt. Butler as common in Northern Guzerat; by Scully as common in the Nepal Tarai; by Mr. George Reid as breeding near Lucknow; by Mr. Davidson as a straggler to Western Khandeish; by Mr. F. B. Simson as not uncommon throughout Dacca and Mymensing in Eastern Bengal. In Burma, Cochin China, and south to Penang the present species is replaced by a nearly allied form, *Grus sharpii*, Blanford (Ibis, 1896, p. 136), which differs in lacking the white band on the neck below the bare or granulated portion, and the inner secondaries are pearl-grey and not white.

In its general habits the Sarus Crane is confiding and fearless, and is generally not molested; in the territories of Holkar it is, Dr. Jerdon says, if not venerated, esteemed so highly as to be held sacred from the shikaries, and he has known complaints made against officers for shooting them. It is seldom found far from water, and breeds in wet, swampy localities. It is usually found in pairs, but occasionally several are seen together. Its note is a clear loud trumpet-like call, which, if uttered when alarmed or on the wing, may be heard a couple of miles off.

According to Mr. A. O. Hume (Nests and Eggs of Indian Birds, 2nd ed. iii. p. 372) the breeding-season is in July or August, occasionally as late as November, and towards the end of June the old birds, which pair for life, commence to construct their nest, which is usually placed on some island or in a very shallow part in the midst of the largest jheel or swamp that they can find. "The nest," he says, "is a huge heap, a broad truncated cone, composed of reeds and rushes and straw, varying much in size according to situation and circumstances. At top it is about two feet in diameter, with a central depression from four to eight inches deep for the eggs. If, as is commonly the case, the nest is placed in water, the bottom of the egg-cavity will be from eight

to twelve inches above the surface of the water, and there may be six inches to two feet of nest below water. On more than one occasion, when in sudden and heavy falls such as we get in India, six and eight inches of rain falling within twelve hours, the wheels were rising very rapidly, I have seen the birds very busy raising their nests. One nest that had thus been raised I measured a couple of months later, when the ground on which it stood was dry, and found it to be fully nine feet in diameter at base and three feet in height, and it must have lost at least a foot by settling. When built on land surrounded by but not overflowed with water, the nest is a much less pretentious affair, perhaps five feet in diameter at base and a foot only in height. Occasionally, apparently where they could not get a large enough piece of water to secure as they considered their safety, I have found them seeking this in concealment. As a rule, the nest is out in the open, visible from all directions at a mile's distance. In the few cases to which I refer I have found it in dense beds of bulrush and reed so lofty that, even when standing on its nest, the bird was only to be seen by climbing a neighbouring tree. In these cases the rushes and reeds, where they were thickest, had been bent down across and across, so as to form a platform five or six feet in diameter, and on this a comparatively slight nest had been constructed. Two is certainly the normal number of eggs, but I have twice (out of more than one hundred nests) found three, and I have also occasionally seen three young birds in company with an old pair.

"I remember one day, as I was coming home from Rahun, I saw in a sheet of rain-water some distance off the road a Sarus sitting on her nest and the male standing beside her. I rode as near the place as I could, and then sent my syce to get the eggs. As he commenced wading towards the nest the male began to dance about, flapping his wings and trumpeting bravely; but when the man got within a few yards and landed safely on the patch of dry ground on which the nest rested, the male put his head down and ran off very crestfallen to a ridge in the water some fifty yards distant, whence he began with loud cries to encourage his lady not to allow 'that black rascal' to take any liberties. She sat quite still, neither moved nor cried, only as the man came close to her made such vigorous pokes and drives at him that he got frightened and was picking up a great dry branch to strike her with, when I called out to him to flap her in the face with his waist-cloth. This he did vigorously, and this being more than she could endure, she reluctantly crept off the nest, now complaining loudly, and joined the male. There was only one egg: this the man brought, but before he could reach me the female had regained the nest, and after minutely examining it and making certain the egg was gone, she stood up on the top and with bill, legs, and feet commenced throwing the straw about in the air in the most furious manner as if beside herself with rage. Then the male came up trumpeting vigorously, but directly he came near her she flew at *him*, and he scrambled off, half-running, half-flapping, through the water, and making more noise than ever. By this time I had received the egg, and found the point of the young one's bill protruding, so sent the man back with it sharp. As he approached, the female ran off, but she must have seen what he was at, for before (having gently laid the egg in the disordered nest, which he smoothed a little) he could get off the island, the female was down upon the egg, sitting as if nothing had happened, but uttering a low chuckling sound such as I had never heard before. But the real joke was to see the male: the moment he perceived that the coast was clear and that his mate was again sitting, he came

back to the nest and paraded round and round, his wings extended, his head in the air, trumpeting *à ne pouvoir plus*, clearly wishing her to believe that it was all his doing.

"I have heard many stories of these birds showing fight in defence of their *penates*, but this was the nearest approach to anything of the kind I ever witnessed, and, as a rule, both birds run away directly you get within twenty yards of the nest.

"With dogs it is different, and I have seen a large water-retriever so buffeted, scratched, and cut in two minutes that he was fain to make off at his best pace howling and yelping, and I have no doubt that foxes or jackals would fare equally ill."

The eggs vary considerably in tone of colour and markings. Mr. Hume says that the "ground-colour varies: in some it is pure white, in some clear pale sea-green, in others a sort of pinky cream-colour, and numerous intermediate shades are observable.

"Some few eggs are entirely spotless and devoid of markings, but they are commonly more or less profusely studded with blotches and clouds of pale yellowish brown, purple or purplish pink. Sometimes the markings are all large, in others (but more rarely) they are small and speckly. As a rule, the markings are, I think, most numerous at the large end. In some they are conspicuously so, and in some they are entirely confined to that part of the egg. As I notice when speaking of the eggs of the Great Bustard, the eggs of this species very frequently exhibit pimples, warts, creases, and wrinkles; indeed, after examining a large series, I should say that not one in twenty was entirely free from such imperfections: but of the hundreds of specimens that I have at one time or another taken of this bird's eggs, I have never met with one anything like so richly coloured as those of the Common Crane (*Grus cinerea*), which latter, by the way, have always appeared to me, though larger and longer, to approximate somewhat in appearance to those of *Otis tarda*.

"The eggs vary excessively in size, in length from 3·6 to 4·48, and in breadth from 2·35 to 2·75; but the average of fifty-one eggs is 3·96 by 2·56."

Five eggs in my collection from Loyah and Etawah, N.W. India, vary in ground-colour from nearly white to creamy buff, and are blotched and spotted with purplish-grey underlying shell-markings and brown spots; two are very sparingly marked, whereas the other three are rather more profusely blotched and spotted. In size they vary from 3·43 by 2·40 inches to 4·33 by 2·62.

The specimen figured and described is the adult bird in the collection of the Hon. Walter Rothschild, and the soft parts are taken from a live bird in the aviary at Lilford Hall.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. Hon. W. Rothschild.

a, ad. Sambhur Lake, January 10th, 1889 (*Dr. Lansdell*).

E Mus. H. B. Tristram.

a, ad. India (*Rev. M. Lamert*).



J. G. Keulemans del. et lith.

Mintern Bros. imp.

KITTLITZ'S PLOVER.
ÆGIALITIS PECUARIA.

ÆGIALITIS PECUARIA.

(KITTLITZ'S PLOVER.)

- Charadrius varius*, Vieill. Nouv. Dict. xxvii. p. 143 (1818, nec Linn.).
Charadrius pecuarius, Temm. Pl. Col. 183, livr. 31 (1823).
“*Charadrius pastor*, Cuv.,” Less. Man. d’Orn. ii. p. 319 (1828).
Charadrius isabellinus, v. Müller, Naumannia, 1851, pt. iv. p. 29.
Hiaticula pecuaria (Temm.), Rüpp. Syst. Uebers. Vög. N.O.-Afr. p. 118 (1845).
Ægialitis kittlitzii, Reichenb. Synops. Av. ii. tab. cv. fig. 1063 (1851).
Hiaticula pectoralis, Licht. Nomencl. Av. p. 94 (1854).
Hiaticula frontalis, id. ut suprâ (1854).
Leucopolius pecuarius (Temm.), Bp. Compt. Rend. xliii. p. 417 (1856).
? *Leucopolius kittlitzii* (Reichenb.), Bp. ut suprâ (1856).
Ægialitis pecuaria (Temm.), Brehm, Vogelfang, p. 283 (1855).
Ægialites pecuarius (Temm.), Heuglin, Syst. Uebers. Vög. N.O.-Afr. p. 56 (1856).
Ægialites longipes, Heuglin, ut suprâ (1856).
Ægialites kittlitzii (Reichenb.), Newton, Ibis, 1867, p. 251, footnote.
Charadrius sennaarensis, Pr. Würt. Icon. inedit. nos. 69, 70, fide Heuglin, J. f. O. 1867, p. 303.
Charadrius trochylus, id. ut suprâ.
Ægialites varius (Vieill.), Harting, Ibis, 1873, p. 262, pl. viii.
Kanhiapraia, in Benguela; *Vikiviky*, *Kiborânto*, Malagasy.

Figuræ notabiles.

Temminck, ut suprâ; Harting, Ibis, 1873, pl. viii.

Ad. ptil. æst. fronte et lineâ per oculum usque ad nucham ductâ albis: lineâ angustâ frontali, loris, cum lineâ infrâ oculum ad collum posticum ductâ nigris: pileo et corpore suprâ sordidè fuscis: remigibus nigro-fuscis, primariis intimis in pogonio externo versus basin albo notatis: secundariis albo apicatis: tectricibus alarum minoribus nigro-fuscis: rectricibus mediis dorso concoloribus, proximis cinereo-albis, duabus extimis toto albis: gutture et pectore ochrascenti-ferrugineis, mento, gulâ et corpore reliquo subtùs, cum axillaribus et subalaribus, albis: rostro et pedibus nigricantibus: iride fuscâ.

Ad. ptil. hiem. corpore subtùs magis albido, capite nec nigro notato et nuchâ ferrugineo-fuscâ: fronte, capitis lateribus et lineâ infra oculari cervino lavatis: pectore superiore fusco-cinereo lavato.

Adult Female (Nubia, April). Forehead and a broad line passing through the eye to the nape white; a narrow line on the fore part of the crown from eye to eye black; rest of the crown and upper parts generally dusky brown; quills blackish brown, the innermost primaries with a patch of white on the basal part of the outer web; secondaries margined with white at the tips; lesser wing-coverts blackish brown; median tail-feathers dusky brown, the remainder greyish white, except the outermost, which are pure

white; lores and a band passing below the eye down the side of the neck black; lower throat and breast ochraceous ferruginous, rest of the underparts with the axillaries and under wing-coverts white; legs and feet blackish; iris brown. Total length about 6·0 inches, culmen 0·7, wing 4·1, tail 1·85, tarsus 1·2, bare portion of tibia 0·65.

Adult in winter (Lower Nile). Differs from the adult in breeding-plumage in lacking the black markings on head and neck; the forehead and stripe behind the eye are tinged with buff, as are the sides of the head, nape reddish brown; upper breast tinged with greyish brown, the ochreous-rufescent colour on breast is wanting, and the underparts generally are whiter than in the breeding-plumage.

Young in down (S. Africa). Upper parts sandy grey, marbled with warm buff and black; a dark band passes through the centre of the crown to the nape, and a broad black band passes down the middle of the back, and there is also a black margin on the sides; underparts white, tinged with buff on the flanks; fore part of the crown white.

THE range of the present species extends throughout Africa, from Lower Egypt to the Cape of Good Hope, and in the former country it extends just within the limits of the Western Palæarctic area, though it does not appear to do so in North-west Africa, as I do not find it recorded from Tunis, Algeria, or Morocco. In Egypt it occurs to the Delta of the Nile, and is, Mr. E. C. Taylor informs me, not rare. Captain Shelley (B. of Egypt, p. 239) says that he found it "plentiful in Egypt and Nubia, frequenting similar localities to those of *Ægialitis cantiana* and *Æ. minor*, and may generally be met with in flocks. Its numbers appear to vary considerably in the same locality in different years," for in 1870, he remarks, he only met with it once, near Golosaneh, although he was then anxious to procure some specimens, while in 1868 and 1871 it was one of the most abundant of the small Plovers. Mr. E. C. Taylor met with it near Girgeh; and, according to von Heuglin (Orn. N.O.-Afr. p. 1035), it is a tolerably common resident in the entire Nile country, from Lower Egypt south to the White and Blue Nile. Dr. O. Finsch records it from Zoulla. Throughout Africa it appears to be very generally distributed both on the coasts and in the interior. On the west coast, Dr. Reichenow records it (J. f. O. 1886, p. 381) from the Gold Coast to the Gaboon, on the coast and on lagoons and rivers, and (J. f. O. 1890, p. 107) at Bimbia on the sea-coast, and on the Camaroon at the villages; and Mr. Hartert (J. f. O. 1886, p. 610) met with it at Kaura, Sokoto, and Anassarawa in the Niger Benüe country. Du Chaillu found it on the Camma River; and Anchieta records it from Benguela. Andersson (B. of Damaraland, p. 274) speaks of it as not uncommon in Damaraland, but he does not think that it breeds there. At some seasons he found it very abundant at Objimbinque, but did not recollect having ever observed it on the sea-shore. Mr. E. L. Layard speaks of it (B. of S. Afr. p. 297) as being common about the chain of lagoons formed by the Salt River and along the sea-shore near Cape Town. He also saw it in September on the rocks at Green Point and on Robben Island, and it is abundant near Zoetendals-Vley.

According to Mr. Ayres (Ibis, 1869, p. 300) it remains throughout the summer and breeds in the Transvaal, arriving there in August, and leaving for the winter months, and it has been recorded from most parts of East Africa. Captain Shelley (Ibis, 1888, p. 305) records it from Manda Island and Jipi, and (Ibis, 1894, p. 474) from Lake Shirwa in Nyasaland. Dr. G. A.

Fischer (J. f. O. 1879, p. 337) obtained it at Mambrui, East Africa, in June, and Emin Pasha at Bukoba in January, and Muhalala, Ugogo, in the interior in July. It is also found in Madagascar, and, according to Grandidier, occurs there on both the east and west coasts, and in Mr. Seeböhm's collection there are specimens obtained in the Cape Verd Islands.

In general habits Kittlitz's Plover is said to more nearly resemble the Lesser Ring-Plover than any other allied species. During the breeding-season, according to Mr. Ayres, it is found in pairs frequenting stony and tussocky ground where vegetation is scanty, and generally at no great distance from water; and in the winter it is seen singly or in small parties, occasionally in company with other allied forms, on sand islands, the sea-coast, on flats or dunes, and on river-banks, but less frequently on the banks of canals or lakes; but Mr. Ayres remarks that he found them frequenting mud-flats in the Transvaal. Its flight resembles that of the Lesser Ring-Plover, and it runs with great swiftness, stopping suddenly every now and again, bobbing its head, as many of the Plovers do. According to von Heuglin its food consists of larvæ, worms, flies, and small beetles which live in the damp sand; and Mr. Ayres says that the stomachs of a pair he shot contained insects, principally a species of white ant. According to Dr. Sharpe (Layard's B. of S. Afr. 2nd ed. p. 661), "it breeds on the Berg River in September. The eggs are laid in a little depression in the dry mud, which is heaped up a little round them. The eggs are olive-brown, profusely and confusedly marked with fine lines and spots of black throughout; axis 1" 2"', diameter 10''". On leaving the nest the female, with a few rapid motions of her feet, covers the eggs with mud, and runs to some distance before taking wing. When driving in a troop of fifty or one hundred mares Mr. Kotze often discovered their nests by the courageous little bird facing the whole troop, flapping her wings, and assuming a threatening attitude; the galloping mares would divide right and left, and avoid the small atom, and thus she preserved her nest."

The adult in breeding-plumage, figured and described, was obtained in Nubia by Hemprich and Ehrenberg, and is in my own collection, and the adult in winter and young in down described are in the collection of Canon Tristram.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, *ad.* Nubia; *b*, ♀ *ad.* Nubia, April (Hemprich & Ehrenberg). *c*, ♀. Egypt (Rogers).

E Mus. H. B. Tristram.

a. Lower Nile, 1864 (*E. Cavendish Taylor*). *b*. Gow on the Nile, March 8th, 1875 (*J. H. Gurney*). *c*. Fantee (*Swanzy*). *d*, *pull.* S. Africa (*Sir A. Smith, Jardine coll.*). *e*. Transvaal (*Ayres*). *f*. Potchefstroom, Transvaal, September 4th, 1879 (*Ayres*). *g*. Cape of Good Hope (*Dr. Dyer Jardine coll.*). *h*, ♀. Knysna, December 5th, 1865 (*C. J. Andersson*). *i*, ♀. Chuti, Madagascar (*Last*).



J.G. Keulemans del.

Hanhart imp.

KILLDEER PLOVER.
ÆGIALITIS VOCIFERA.

ÆGIALITIS VOCIFERA.

(KILLDEER PLOVER.)

Pluvialis virginiana torquata, Briss. Orn. v. p. 68 (1760).

Pluvialis dominicensis torquata, id. tom. cit. p. 70 (1760).

Pluvialis jamaicensis torquata, id. tom. cit. p. 75 (1760).

Charadrius vociferus, Linn. Syst. Nat. i. p. 253 (1766).

Charadrius torquatus, id. tom. cit. p. 255 (1766).

Le Kildir, Buff. Hist. Nat. Ois. viii. p. 96 (1781).

Charadrius jamaicensis, Gmel. Syst. Nat. i. p. 685 (1788).

Ægialites vociferus (Linn.), Bonap. Comp. List, p. 45 (1838).

Hiaticula vocifera (Linn.), Gray, List Spec. Brit Mus. p. 71 (1844).

Oxyechus vociferus (Linn.), Reichenb. Grall. p. xviii, tab. clxxii. figs. 725, 726 (1852).

Charadrius (Oxyechus) vociferus (Linn.), G. R. Gray, Cat. of Brit. Birds, p. 142 (1863).

Tildéo, Mexican; *Pijje* in Costa Rica.

Figurae notabiles.

D'Aubenton, Pl. Enl. 286; Wils. Am. Orn. vii. pl. 59. fig. 6; Audub. B. Amer. pl. ccxv.;
id. 8vo ed. v. pl. 317; Lilford, B. of Brit. Isl. part xxv.

Ad. fronte et striâ superciliari albis: pileo antico cum lateribus nigris, medio et nuchâ fuscis: collo albo, et in parte inferiore nigro, circumcincto: dorso umbrino-fusco: uropygio et supracaudalibus aurantiaco-rufescentibus: remigibus nigro-fuscis, in pogonio interno albo marginatis: secundariis nonnullis in pogonio externo albo notatis: tectricibus alarum majoribus nigro-fuscis albo terminatis, reliquis dorso concoloribus: rectricibus extimis albis nigro transfasciatis et vix rufescente notatis, sequentibus ad basin rufescenti-aurantiacis, versus apicem nigris et albo terminatis, medianis fuscis et griseo-fusco apicatis: striâ nigrâ a rostro per oculum ductâ, gulâ et corpore subtùs albis: pectore fasciis duabus nigris transversim notato: rostro nigricante: pedibus sordidè viridibus: iride fuscâ.

Adult Male (New Jersey, May). Forehead and a stripe above and behind the eye white; fore part of the crown black; crown and nape warm brown; lower neck encircled by a white band, below which is a broad black band; upper parts generally warm brown; upper tail-coverts rufous; quills blackish brown, on the basal portion of the inner web broadly margined with white, and some of the secondaries with a white patch on the outer web; larger wing-coverts blackish brown, broadly tipped with white; rest of the wing-coverts like the back; outer tail-feathers white, broadly barred with black and slightly tinged with rufous, the next rufescent orange at the base, then black, broadly tipped with white; middle rectrices greyish brown and not white at the tip; below the white band which passes through the eye a black band passes from the base of the bill; rest of the underparts white, except the black band encircling the lower part of the throat, and a second black band which crosses the breast: bill

blackish; legs dull greenish; iris brown. Total length about 8·5 inches, culmen 0·92, wing 6·35, tail 3·8, tarsus 1·45.

Young in down (Arizona). Upper parts generally marbled greyish stone-brown; a broad band over the forehead white, and the black lines defined on the head as in the adult; wings at the base like the back, then black, and the terminal portion white; hind neck, sides of the back, and an irregular median line on the back black; underparts white, washed with warm buff on the sides, and on the lower neck a black band.

Obs. The sexes do not differ in plumage. According to Dr. Elliott Coues the young birds have the black bands replaced by grey, and the upper parts duller and greyer, and when quite young the feathers of the upper parts are spotted with rusty brown; rump pale; markings of tail incomplete; but they speedily acquire the adult dress.

THE Killdeer Plover can only be included as a rare straggler to England, and has not been observed in any other part of the Palæarctic area. It was first recorded as having been obtained here by Dr. Sclater, who (*Ibis*, 1862, p. 276) stated that he received a mounted specimen from Mr. John R. Wise, which the latter gentleman said had been shot by a keeper named Douding, in a potatoe-field near Knapp Hill, on the River Avon, about a mile from Christchurch, in April 1857, and was taken in the flesh to Mr. Hart, the well-known bird-stuffer in Christchurch, from whom it was bought by the owner Mr. Tanner. Mr. Howard Saunders throws some doubt on the accuracy of the above statements; but there can be no doubt whatever respecting the second recorded occurrence, viz. that of a female which was shot by Mr. F. Jenkinson at Tresco, one of the Scilly Islands, on the 14th January, 1885, and exhibited by me at a meeting of the Zoological Society. Mr. Jenkinson sent me the following particulars of its capture, viz.:—
“On Sunday, 11th January, 1885, I was walking home by the Long Pool on Tresco, and instinctively stopped to look at a favourite bit of mud and rushes at the west end. While I was looking, a bird flitted a few yards and settled on the grass between me and the mud; and as it did so it uttered a gentle half note which I felt sure belonged to no bird that I had seen before.

“It was tame enough, and remained about for three days, its return to that particular spot apparently coinciding each day with the rise of the tide. On Monday I missed it, sitting, at 25 yards after a long crawl. I half hoped that the keeper, who is a better shot than I am, would go after it, so I did not disturb it much. On Tuesday I put it up unexpectedly within a yard or two of me from behind a wall where I was waiting. The chestnut tail-coverts were very distinct as it flew away, uttering cries veritably ‘vociferous,’ but very plaintive and musical. I did not fire at it on that occasion. Next day I began by shooting a Ring-Dotterel by mistake; I could not see the other anywhere; the day wore on, and I had to leave next morning. It was getting quite late when, walking up to the other end of the pool, I saw, beyond a raised causeway which crosses the pool there, a bird running on the wet ground. I fired instantly and the bird just uttered one characteristic cry, which assured me that it was the one of which I was in search, and lay there dead.

"The name Killdeer Plover at once occurred to me ; and next day I found a small book on American birds, and on reading the description of that species I found that it agreed with my specimen. The bird was a female in good plump condition, and quite the reverse of an exhausted straggler."

In a work published on 'Madeira: its Climate, &c.,' by Mr. J. Y. Johnson, he states that the Killdeer Plover has occurred on that island, but I do not find any confirmation of this statement. It is an inhabitant of North America, where in many parts of the country it is common, and occurs from the Hudson Bay Territory, where it is met with only in the summer, down to Central America, where it winters.

According to Richardson (Faun. Bor.-Am. p. 368) it "arrives on the Saskatchewan plains about the 20th of April; and at that season frequents the gardens and cultivated fields of the trading posts with the utmost familiarity in search of food. It hovers over the head of anyone who disturbs it, reiterating a loud, shrill cry, which is supposed to resemble the word *killdeer*."

Capt. Blakiston says (Ibis, 1863, p. 129) that it "arrived in the neighbourhood of Fort Carlton on the 19th April in 1858. I found it a difficult bird to approach within the range of small shot. Besides my own, M. Bourgeau obtained specimens and eggs on the Saskatchewan." In South-eastern Oregon, Capt. Bendire found it one of the earliest birds to arrive in spring, and generally distributed in summer.

In the Western States it appears to be common everywhere, and, according to Dr. Cooper, it winters in California everywhere south of San Francisco, migrating north in April and May, but some remain throughout the summer in Western California.

In the Eastern States it is much less common. I never met with it during the two years I collected in New Brunswick; my friend Mr. George A. Boardman, however, records it as occurring near Calais, Maine, in autumn, but it appears to be merely an accidental visitant.

Dr. Brewer speaks of it as generally distributed in New England, but nowhere common; and it is recorded from almost all the Northern States as a common summer resident, wintering in the Southern States.

I found it common in Texas, not only in the winter but also in the breeding-season, though not then so abundant as in the cold season; but it certainly breeds there, as I found its nest. In Mexico it is a tolerably common winter visitant. Messrs. Sclater and Salvin (Ibis, 1859, p. 227) record it as found near Dueñas; Mr. G. C. Taylor (Ibis, 1860, p. 313) records it from Honduras, and Mr. Frantzius (J. f. O. 1869, p. 378) as common near San José in Costa Rica. It is also stated by Bryant to be common on the Bahamas in winter, and by Wedderburn to be found in Bermuda at the same season.

In its habits the Killdeer is a noisy, restless bird, and I, when stalking some rare bird, frequently found it a perfect nuisance, as if I was unfortunate enough to come near one it would generally, after running a short distance, fly up uttering its loud warning cry, which would at once put all the birds in the neighbourhood on the alert. I found it equally noisy in the winter as in the summer, and can therefore not endorse Audubon's statement that it is an unusually silent bird at that season. I found it not only on the sea-coast, but also inland at almost every pool, and have often been startled when watering my horse at some deserted-looking pool in a

half-dried-up river-bed by the wild cry of the Killdeer close to me. As a rule, I did not find them shy, as they would often remain until one came within a few paces of them, and then either fly up or run some distance before taking wing. They run with great swiftness, and when on horseback I frequently noticed that they would run out of the way and not take flight.

Messrs. Baird, Brewer, and Ridgway (Water-B. of N. Am. i. p. 150) write respecting its habits as follows:—"Like most of its race, this Plover passes much of its time on the ground, over which it moves with great rapidity. It can run with such swiftness that—according to Audubon—to run 'like a Killdeer' has in some parts of the country passed into a proverbial phrase. This bird is also equally active on the wing, and mounts at pleasure to a great height; and during the love-season it is said to perform various kinds of evolutions while on the wing.

"Its note consists of two syllables, resembling in sound 'kill-dee,' rapidly enunciated; and occasionally, when the bird is much excited, only the last syllable is repeated after the first utterance of the double note. Generally it is sounded in a clear, loud tone, and as a signal of alarm. It not unfrequently startles other birds, and puts them on their guard, this habit rendering the Killdeer an object of dislike to the hunter. During the summer—especially when it is breeding, and afterward, even when its young are fully grown—the Killdeer is a noisy and restless bird, and is disturbed by the near approach of man. It will often squat until one is close upon it, and will then suddenly fly up or run off, startling the unwary intruder by a loud and clear cry.

"The Killdeer feeds on worms and various kinds of insects on the uplands, and also frequents shallow pools and brooks in search of such small crustacea as are found in the water. In the fall it is said to follow the ploughman, and pick up the larvæ and other forms of insect life that are turned over in the furrows."

The present species breeds from the extreme northern limit of its range down to Mexico, but, it would appear, much more sparingly in the southern than in the northern portion of its range. Its nest, so far as my personal experience goes, is extremely simple, being a mere depression in the soil sparsely lined with a few grass-bents; but, according to Dr. Brewer, it is said to sometimes, though rarely, construct a nest of grass in a bunch of plants, and Wilson speaks of having seen nests with small fragments of shells forming a rim round the eggs. The nest is more frequently placed inland than close to the coast, and is often to be found far inland. I procured eggs from Systerdale, in Texas, and found freshly hatched young on Galveston Island. When the nest is approached the old birds exhibit the greatest anxiety, and fly round uttering their plaintive cry, or run along the ground feigning lameness to entice the intruder away, hence the nest is by no means a difficult one to find. It is said that during incubation both parents alternate in sitting, and do not leave the nest day or night, in this respect differing in a marked degree from *Ægialitis meloda* and *Ægialitis wilsoni*.

According to Dr. Brewer, the young can run about immediately after they leave the shell, though, as usual with birds of this kind, those I have met with generally tried to hide by squatting motionless on the ground. The eggs are deposited from April to June, according to the latitude where they nest, and in Texas I found them in May: they are four in number,

pyriform in shape, and those in my collection have the ground-colour pale clay-buff or ochre, and are blotched and spotted with black, the blotches being, as a rule, larger and more numerous at the larger end; in one or two there are also irregular black streaks and lines, and all have a few paler shell-markings. In size they average 1·55 inch by 1·12 inch.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* New Jersey, May (*J. Krider*). *b*. San Antonio, Texas, May, 1864 (*H. E. D.*). *c*. Hamilton Beach, May 4th, 1887 (*J. W. Stainton*). *d*. Near City of Mexico (*G. H. White*). *e*. Maryland, September 10th, 1858 (*Elliott Coues*). *f*. New Jersey (*Krider*). *g*, *pull.* Fort Whipple, Arizona, August 10th, 1869 (*E. Palmer*).

E Mus. H. B. Tristram.

a. Bermuda, 1848 (*H. B. T.*). *b*. Coban, Vera Paz (*O. Salvin*). *c*. Nova Scotia (*Wedderburn*). *d*, ♀. Ohio, 1883 (*Walton*). *e*. N. America (*J. H. Gurney, Jr.*).

Genus LOBIVANELLUS.

Tringa apud Bodd. Tabl. des Pl. Enl. p. 50 (1783).

Parra apud Gmelin, Syst. Nat. i. p. 706 (1788).

Vanellus apud Vieill. Nouv. Dict. xxxv. p. 208 (1819).

Charadrius apud Wagler, Syst. Av., *Charadr.* no. 49 (1827).

Lobivanellus, Strickland, P. Z. S. 1841, p. 33. Type *L. indicus*.

Chettusia apud Gray, Genera of B. iii. p. 541 (1847).

Sarcogrammus, Reichenbach, Natürl. Syst. Vögel, p. xviii. Type *L. indicus* (1852).

Tylibyx, id. ut suprâ. Type *L. melanocephalus* (1852).

THE present genus is represented in Asia, Africa, and Australia, and is found only in the extreme eastern portion of the western Palæarctic area.

Particulars are given in the following article respecting habits and nidification, in which the type species and the other members of the genus do not appear to differ.

Lobivanellus indicus, the type of the genus, has the bill straight, about as long as the head, rather stout at the base and tapering towards the point, straight to the end of the nasal sinus, then slightly raised and decurved to the tip, which is narrow and rounded; gape-line straight; nasal sinus extending over more than two thirds of the length of the bill; nostrils linear, lateral, subbasal; wings long, the first primary shorter than the third, the second longest; at the carpus a horny tubercle, which is sometimes developed into a spur; a lappet of nude skin at the base of the bill in front of the eye; tail long, nearly even; legs long, slender, the tarsus anteriorly scutellate, the tibia bare for about half its length; toes moderately long, the hind toe small; claws rather slender, slightly curved, rather obtuse.



J. G. Keulemans del. et lith.

REDWATTLED LAPWING.
LOBIVANELLUS INDICUS.

Mintern Bros. imp.

LOBIVANELLUS INDICUS.

(RED-WATTLED LAPWING.)

Le Vanneau armé des Indes, Buffon, Hist. Nat. des Ois. viii. p. 64 (1781).

Le Vanneau armé de Goa, D'Aubenton, Pl. Enl. 807.

Goa Sandpiper, Lath. Syn. iii. pt. 1, p. 165 (1785).

Tringa indica, Bodd. Tabl. d. Pl. Enl. p. 50 (1783).

Parra goensis, Gmel. Syst. Nat. i. p. 706 (1788).

Tringa goensis (Gmel.), Latham, Ind. Orn. ii. p. 727 (1790).

Vanellus goensis (Gmel.), Vieill. Nouv. Dict. xxxv. p. 208 (1819).

Charadrius atrogularis, Wagl. Syst. Av., *Charadr.* no. 49 (1827).

Lobivanellus goensis (Gmel.), Strickland, P. Z. S. 1841, p. 33.

Chettusia indica (Bodd.), Gray, Genera of B. iii. p. 541 (1847).

Sarcogrammus goensis (Gmel.), Reichenb. Grall. p. xviii (1852).

Lobivanellus indicus (Bodd.), Schlegel, Mus. Pays-Bas, *Cursores*, p. 68 (1865).

Chettusia goensis (Gmel.), Tytler, Ibis, 1868, p. 203.

Hoplopterus spinosus (nec Linn.), Radde, Ornith., 1889, p. 109.

Sarcogrammus indicus (Bodd.), Sharpe, Cat. B. Brit. Mus. xxiv. p. 149 (1896).

Titai, Titi, Tituri, Titiri, in different parts of India; *Yennepa chitawa*, Telugu (*Jerdon*); *Verklikker*, Dutch in Ceylon; *Al-kati*, Ceylonese Tamils, lit. "Man pointer"; *Kiralla, Kibulla*, Sinhalese (*Legge*).

Figuræ notabiles.

D'Aubenton, Pl. Enl. 807; Gould, Cent. of Himalayan B. pl. lxxviii.; Reichenbach, Grallæ, Taf. ci. fig. 168, Taf. cii. fig. 1050.

Ad. capite, collo et pectore nigris: striâ magnâ postoculari albâ: dorso antico cinereo-albo: corpore suprâ tectricibusque alarum fusco-cinereis viridi nitentibus, tectricibus alarum medianis rubro-purpureo nitentibus: supracaudalibus albis: remigibus ad basin albis et in parte reliquo nigris, secundariis magis albis, intimis ferè omnino albis: tectricibus alarum majoribus albis et ad basin cinereis: caudâ ad basin albâ, medialiter nigrâ et albo terminatâ, rectricibus medianis cervino-cinereo notatis et apicatis: corpore reliquo subtùs albo: rostro ad basin coccineo, in parte apicali nigro: membranâ lororum et marginibus palpebrarum coccineis: pedibus flavis, unguibus nigris: iride coccineâ.

Adult Male (Transcaspia, July 9th). Head, neck, and breast deep black; a white patch behind and rather below the eye covering the aural region; fore part of the back greyish white; rest of the upper parts brownish grey glossed with green, except on the median coverts, which are richly glossed with reddish purple; upper tail-coverts white; quills black, with the base white, this colour increasing on the secondaries until the innermost are nearly pure white; larger wing-coverts grey at the base and broadly tipped with white; tail white at the base, then black, and broadly terminated with white, the

median feathers marked and tipped with buffy grey; underparts below the breast white: terminal half of the bill black, the basal half, the wattles in front of the eye, and the eyelids lake-red; feet and legs yellow, claws black; iris crimson. Total length about 11·50 inches, culmen 1·45, wing 8·22, tail 4·78, tarsus 3·2.

Young in down (Sambhur, June 20th). Upper parts sandy grey, mottled with buffy brown and black; a black patch behind the eye; sides of the head below the eye buffy white; centre of the back distinctly marked all along with black; throat and upper neck sooty blackish; rest of the underparts white.

Obs. The sexes are alike, differing only slightly in size, and there is, so far as I can see, no difference between the winter and summer plumage. The young bird has pale sandy-buff margins to the feathers, the crown of the head is pale brown, becoming black on the sides and the hinder portion; throat and sides of the face white; the sides of the head from the hinder ear-coverts dusky black, this colour extending over the lower throat and chest; wattles very slightly developed.

THE range of the Red-wattled Lapwing extends from Transcaspia in the west to Assam in the east, being replaced in Burma by a closely allied species, *Lobivanellus atronuchalis*. Northward it ranges as high as Gilgit, and in the south it is found as far as Ceylon.

According to Messrs. Radde and Walter (*l. c.*) it breeds commonly in the eastern portion of Transcaspia, both on the Tedgend and Murghab, as also on the Kuschk. They first observed it on the 1st April, 1886, at Kara-bend, and in 1887 found it generally distributed on the Murghab on the 6th and 7th April, but the largest number passed on the 24th and 25th April. Its loud, incessant cry, especially at its nesting-place, they say, becomes most tedious.

Mr. Zarudny speaks of it as being a very common bird along the Tedgend and the central part of the Murghab, as also in the oasis of Pindé. Mr. Blanford met with it once in Persia, near Sarvistán, east of Shiráz, in June, where it was, he adds, very rare; and I may here remark that there are specimens in the British Museum from Muscat, in Arabia, and from Mesopotamia.

Lieut. H. E. Barnes speaks of it (Stray Feathers, ix. p. 459) as being rare near Chaman, in Northern Afghanistan; but Sir O. St. John found it common in Southern Afghanistan, and Col. Swinhoe says (Ibis, 1882, p. 120) that it was common throughout the Bolan and all through the country to Kandahar. Mr. Scully obtained it once at Gilgit in April; and Dr. Jerdon says it is one of the best known birds of India, occurring everywhere from Ceylon up to Cashmere, to the west of which Mr. Ball met with it in the higher valleys of the Suliman hills up to an altitude of 3500 feet. Mr. Blanford obtained it in Baluchistan, where, however, it was by no means common, but Mr. A. O. Hume states that it is a common bird in Sind. Capt. Butler met with it on the island of Hendjam, in the Persian Gulf. In Cutch, Guzerat, and Kattiawar it is common, as also on the Sambhur Lake, where, according to Mr. Adam, it breeds from March to July. In Oodeypore, Mr. Hume met with it in February, and in Jodhpore, during the prevalence of a drought in the cold season of 1877-78, he found one or more pairs about every hamlet. Throughout the Bengal Presidency it is common, and Mr. Cripps records it from Furreedpore as resident, but it becomes rarer further east, and is only a straggler in North-east Cachar in March and April. In the south it is found in Travancore both in the hills and on the plains; and in Ceylon, according to Col. Legge (B. of

Ceylon, p. 963), "though widely distributed throughout the low country, it is somewhat partial in its choice of locality. It is very common in the northern half of the island, as also in the north-western and better-watered eastern districts, being in these parts found at almost every tank and jungle-begirt paddy-field that one visits. In the Western Province it is also abundant, but is chiefly found on pasture-land; and about Bolgodde frequents marshes and the drier portions of large paddy-fields. In the Amblangoda, Wackwella, and Baddegamma fields and pastures, as also about Matara, it is to be met with in moderate numbers, and is likewise seen further east towards Tangalle and beyond that place. In the dry maritime region of Hambantota, *Lobipluvia malabarica* takes its place principally, though it may there be met with about tanks and marshes in the jungle. Further north, on the Wellaway Korale it is again more common, and ascends the hills at Lemastota to a considerable altitude. It is also to be found on the Uva patnas at times, where Mr. Bligh has seen it near Banderawella at an altitude of about 4000 feet. It likewise frequents suitable localities in Dumbara, but, I understand, chiefly in wet weather, when it is a visitor to that upland from the low country."

In Burma it is replaced by a closely allied species, *Lobivanellus atronuchalis* (Blyth), which differs in having a broad white band over the ear-coverts and a white collar on the hind neck, whereas in the present species the white bands over the ear-coverts are continued and meet on the hind neck.

In general habits the present species appears much to resemble our common European Lapwing, and is even more noisy than that bird. It is generally found near water, though occasionally is seen at some distance from it. Usually it is to be seen singly or in pairs, but in the cold season they collect in small scattered flocks, but seldom in large flocks.

"Late in April," Mr. Zarudny writes, "near Kara-bend, on the banks of the rivers which are submerged during the floods, I observed both sexes; the males were wheeling above their mates executing all kinds of aerial evolutions, like the Peewit. About the 27th June the young had left the nest, and between the 2nd and 12th July to the end of that month they collected in small flocks of from four to eighteen individuals. In each separate family there were from two to four young. Amongst all the Lapwings I have seen this bird runs and flies best. The cry of the male, which is heard in the spring, is loud and melodious, but difficult to reproduce. It is not easy to approach, being shy and always on the alert, and even during nidification they never at the approach of man show the same audacity as other allied species. In summer their food consists of different sorts of orthoptera which abound on the dry prairies and the steppes skirting the rivers. They prefer to remain near the water, and to search for their food on the sand-banks." In India they feed on worms, crickets, beetles, aquatic insects, and larvæ, and if pressed by hunger they will feed on offal. Col. Sykes even found corn in their stomachs. Referring to its habits in Ceylon, Col. Legge writes (*l. c.*):—"In common, however, with many other species which are so very tame and familiar in India, it is not so fond of the vicinity of human habitations as it is on the mainland; for although it may be found on pasture-land surrounding villages and hamlets and even close to cottages, it prefers more unfrequented localities, such as the borders of paddy-fields, edges of marshes, meadow-land surrounding large tanks, or the margins of the smaller village ones. Though not strictly a shy bird, it is wary enough to rise when approached before one is within shot of it, and then, when flying round the

place from which it has been disturbed, uttering its well-known cry in true Lapwing fashion, it manages to keep at a respectable distance from the intruder. When on the wing or when approached while on the ground, particularly at night, it is constantly uttering its harsh and rather amusing notes; these consist of a shrill cry, followed by others resembling the words 'Pity to do it,' 'Did you do it?'—which are particularly annoying to the inexperienced sportsman, as they are always vociferously given out after having been fired at and missed! At night it is a most watchful bird, and ever ready in the jungle to alarm slumbering nature around it with utterance of these cries. When watching for deer, on a moonlight night, behind an ambush, or, as it is called in North Ceylon, a 'shade,' of newly-cut boughs, and employed in the somewhat monotonous sport (?) of intently gazing through a small opening in my lair at a water-hole some fifteen yards in front of me, I have had these troublesome birds run close up, and, finding me out, rise with loud cries of 'Pity to do it;' and whether it was a pity or not to do it, I used to find that after this alarm the deer gave the water-hole a wide berth, and did not come to drink."

The Red-wattled Lapwing breeds throughout India, both on the plains and in the hill country, up to about 4000 feet above the sea-level. According to Mr. A. O. Hume, the breeding-season extends from March to August, but the largest number of the eggs in his collection were deposited in April, and the normal number of eggs appears to be four. He gives (*Nests and Eggs of Ind. B.* 2nd ed. iii. pp. 340–344) several detailed accounts of its nidification, from which I gather that it breeds on river-banks, the edges of swamps and ponds, and in well-irrigated gardens, except during the rainy season, when they select drier situations. The eggs are often placed amongst the ballast on a railway, on the top of an old hedge-bank, in an old brick-kiln, and on several occasions they have been found on the top of a flat-roofed house. The nest is usually a slight depression in the ground, which is often surrounded by a little circle of stones or a little ridge of sand, and in one instance, where the nest was on the roof of a house, the birds had collected all the little pieces of loose mortar on the roof and made a raised-up nest. This bird appears to have a partiality for a railway-line as a site for its nest, for Mr. Hume writes (*l. c.*) as follows:—"Going along the line at Etawah for about three miles, on the 14th August, we found five nests, one containing perfectly fresh eggs. Four of these nests were on the kunker ballast within two feet of the rail, so that the footboard of the carriages of every train must have passed over and within two feet of the sitting bird. The fifth was on the top of the boundary bank, the bird sitting totally unconcerned as our trolley passed within six or eight feet of it, and only moving when I walked up to the spot. Brooks tells me that along his fifty miles of line he has seen at least one hundred nests within the last twenty days or month."

The late Mr. Charles Horne gives (*Ibis*, 1869, p. 454) the following interesting account of the nesting of this species on the roof of a house:—"The judge's court-house at Manipur is a large building with a terrace-roof of plaster beaten flat. Beneath it are also the courts of several other officers; and it is frequented by from four to five hundred people daily. A broad ladder leads to the top of the building, which is surrounded by trees and adjoins a large swampy barren piece of land such as the Lapwing loves. While sitting in court I have often heard Lapwings making a great outcry; but I never guessed the cause, until, on inquiry, I found that,

for the last three or four years at least, a pair had selected the bare terrace-roof to breed. They always chose the same spot for their nest—a little heap of lime rubbish about a couple of feet across; and in a very slight hollow in the top of this I found two of their eggs, which almost exactly resemble those of their English namesake. This habit is the more strange, as the Kites (*Milvus govinda*) generally succeed in carrying off their newly hatched young. I ordered the birds not to be disturbed, and watched them with some curiosity; for I had thought that they always frequented the most lonely and barren places for the purpose of breeding. On July 1st, 1865, I went up the ladder to the top of the court-house, peeped quietly over the parapet, and saw the Lapwing sitting on her two eggs. Gently she slipped off and crept lowly along for two or three yards, when she lifted herself up, and, flying slowly, alighted a little lower, on the next ledge, pretending to think I had not seen her two eggs, exposed as they were on the heap of mortar. On July 3rd, when the heat on the roof was so intense that one could scarcely bear to touch the plaster, the eggs were hatched; but on the 6th, when sitting in court in the afternoon, I heard a tremendous outcry of the parents, and sending to the roof I found that the Kites had swooped down and carried off the chicks. This occurs again and again, and yet the birds persist in laying in the same place.

“On July 9th, 1866, I happened to go to the roof of my own house, which is flat and terraced like that of the court-house. There I saw four eggs of this Lapwing lying on the smooth plaster in the middle of the terrace. There was no trace of a nest, save a curious line of little bits of plaster, forming an irregular circle six or eight inches in diameter; but the pieces collected were not numerous. My man suggested that they were placed to prevent the eggs rolling about with the wind in the parents’ absence; and this seems to be very likely. These eggs were never hatched, although the parents were most attentive, but were, one by one, carried off by the Crows (*Corvus culminatus*), which are ever on the look-out for the eggs of other birds.”

According to Mr. Hume, “the eggs of this species are of the typical Plover type—normally broad and obtuse at one end and pointed towards the other. Oval, truncated, and greatly elongated varieties also occur. The ground-colour varies, of course, as in all Plovers—in some a clear pale olive-green, in some a yellow, in others a reddish buff, while occasionally it is almost coffee-coloured. The markings are intensely deep brown or black; and there are blotches, streaks, spots, and clouds thinly or thickly distributed over the whole surface. The endless variety in the colour of the ground, and the extent, intensity, and character of the markings, renders any more exact description impossible; but I may note that, besides the primary markings, most of the eggs exhibit underlying clouds, spots, and streaks of pale inky purple. The eggs have scarcely any gloss. In length the eggs vary from 1·45 to 1·85, and in breadth from 1·13 to 1·3; but the average of sixty-four eggs is 1·64 nearly by a little over 1·2.”

The specimens figured are an adult male from Transcaspia, for the loan of which I am indebted to Professor Menzbier, of Moscow, and a young bird in down from the British Museum collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♀, *b*, ♂. N.W. India (*Lieut. H. E. Barnes*).

E Mus. Prof. M. Menzbier.

a, ♂ *ad.* Merutchak, Transcaspia, July 9th; *b*, ♀ *ad.* Kara-bent, Transcaspia, May 13th (*Zarudny*).



J. G. Meulemans del. et lith.

AFRICAN BLACK OYSTERCATCHER.
HÆMATOPUS MOQUINI.

Mintern. Bros. imp.

HÆMATOPUS MOQUINI.

(AFRICAN BLACK OYSTER-CATCHER.)

"*Hæmatopus niger*, Cuv.," Temm. Man. d'Orn. ed. 2, ii. p. 533, "Afrique méridionale, Australasie" (1820, partim).

Ostralegus capensis, Licht. Verz. Doubl. p. 73, desc. null. (1823).

"*Hæmatopus niger*, Cuv.," Less. Man. d'Orn. ii. p. 301, "Malouines, Cap, Nouvelle Hollande" (1828, partim).

Hæmatopus capensis (Licht.), Gray, Gen. of Birds, iii. p. 547 (1847).

Hæmatopus unicolor, Licht. Nomencl. Av. p. 93, "Kafferland," desc. null. (1854, nec Wagler).

Hæmatopus niger, Bolle, J. f. O. 1855, p. 175, "Canaries" (nec Pall.).

Hæmatopus (*Melanibyx*) *moquini*, Bp., add and correct Table &c. Præcoces in C. R. xliii. p. 1020, "S. Africa" (1856); Gray, Hand-l. of B. iii. p. 22. no. 10064, "S. Africa" (1871).

Melanibyx moquini, Bp., Reichenb. Handb. der spec. Orn., Grallæ, pl. 168. figs. 1042-1043 (1852).

Hæmatopus unicolor capensis, Seebohm, Charadriidæ, p. 309 (1887).

Melanibyx capensis (Licht.), Heine & Reichenow, Nomencl. Mus. Hein. p. 337 (1890).

Corvino in Graciosa; *Grajo de Mar* on Lanzarote; *Cuervo marino* on Fuerteventura.

Figura unica.

Reichenbach, ut suprâ.

Ad. fuliginoso-niger: rostro et periophthalmis nudis corallino-rubris: pedibus lætè et saturatè coccineo-rubris: iride coccineâ.

Adult Male (Fuerteventura, April 20th). Entire plumage dark sooty black: bill and bare part round the eye coral-red; legs deep crimson; iris bright red. Total length 15·0 inches, culmen 3·45, wing 9·8, tail 4·3, tarsus 2·0.

Adult Female (Fuerteventura, May 6th). Does not differ from the male in plumage. Culmen 3·55, wing 10·0, tail 4·5, tarsus 2·0.

ALTHOUGH essentially an African species, inhabiting the coasts of South Africa on both sides of the continent, and even found occasionally in the southern parts of the Red Sea, this Oyster-catcher is found regularly and breeds in the Canary Islands. Berthelot met with it on the small barren island of Graciosa. Dr. C. Bolle (J. f. O. 1855, p. 175) says that he saw several pairs on the shore of the peninsula of Handia in 1852, and succeeded in shooting one specimen, and he subsequently states that Don Francisco Manrique observed this bird along the Straits of

Bocayne on the sandy shores on the north side of Fuerteventura, near Corralejos, where, he adds, it doubtless breeds. Mr. Godman did not meet with it, but says (*Ibis*, 1872, p. 220) that it is occasionally seen on the coast of Teneriffe.

Mr. E. G. Meade-Waldo obtained an old female, in which he found well-developed eggs, near the point of Jandia, on Fuerteventura, in February 1888, and adds that he was assured that it breeds on the north coast of Fuerteventura, and also on the islands of Lanzarote and Graciosa. In the following year he revisited Fuerteventura in February, but did not observe it, though a boy, who had five examples, assured him that they were breeding when he shot them. He subsequently, however, obtained a breeding pair on the island of Graciosa.

In Africa the Black Oyster-catcher doubtless occurs all along the west coast as far as that portion which is opposite to the Canaries, but the records of its occurrence north of the Equator are very meagre. Andersson (*B. of Damara Land*, p. 277) speaks of it as being not uncommon on the mainland of the south-west African coast, as well as on the adjacent islands. Mr. E. L. Layard, who records it from the Cape Colony, states that it is "not uncommon along the shores of South Africa, extending far towards the Line on both sides of the continent"; and Mr. Sharpe, in his edition of Layard's *B. of S. Africa*, says that Mr. Rickard found it at Port Elizabeth and East London, but not plentiful at either place. According to Mr. Ayres (*Ibis*, 1862, p. 34) these Oyster-catchers "are very scarce in Natal. They frequent the sea-shore, are active in their habits, and run with considerable swiftness; they feed along the sandy beaches; on the receding of a wave they run quickly into the shallow water, and inserting their wedge-shaped bill up to their heads in the sand, haul out small crabs, which having secured they run high and dry to devour at leisure."

In East Africa the Black Oyster-catcher has been met with as far as the southern portion of the Red Sea. Rüppell (*Vög. N.O.-Afr.* p. 118) says that a single specimen was obtained on the island of Dahalak in the Red Sea, but not preserved, and von Heuglin (*Orn. N.O.-Afr.* p. 1041) speaks of it as of accidental occurrence on the dunes and islands in the southern part of the Red Sea.

In habits the Black Oyster-catcher appears to resemble *H. ostralegus*, frequenting the rock-bound or sandy shores, where they pick up small crustaceans, mollusca, &c., and often follow the receding waves in search of food. Bolle remarks on their great swiftness of foot, and says that they usually escape pursuit by running, and only take wing when closely pressed. They are usually seen in pairs and are inseparable, but in October and November, according to Andersson, they collect in large flocks and are then extremely shy and difficult of approach within gunshot range. Its cry is loud, like that of our common European Oyster-catcher, and it is said to be a somewhat noisy bird. It feeds on worms, insects, small crustaceans, and mollusca, which latter it searches for in the crevices of the rocks and under stones; and Andersson remarks that while thus engaged it sometimes swims a short distance from rock to rock, and he further states that he has been told that its flesh is excellent, but that he himself never tasted it.

The Black Oyster-catcher breeds in South Africa and also in the Canaries. Mr. Layard says (*B. of S. Afr.* p. 300) that he received its eggs from Mr. Hugo, of Simon's Town, who procured them along the shore towards Cape Point. The eggs, he says, "are generally two in number, laid in a simple depression in the sand, in the débris accumulated just beyond

high water-mark. They are of a greyish cream-coloured ground, generally, but rather sparsely, covered with coarse, irregular, wavy black and dark brown broken lines: axis 2" 6"', diam. 1" 9"'. My son found it breeding on Robben Island about Christmas 1865." Andersson (B. of Damara Land, p. 277) states that "it makes no nest, but deposits its eggs on the shingle of the beach; these are four in number, of a drab colour, with eccentric streaks and spots of very dark brown."

In working out the synonymy of the present species, I have found no small difficulty in deciding on which specific name it should rightly bear. Temminck (*l. c.*) was the first to refer to the African species (which he did not, however, separate from the Australian form) under the name of "*Hæmatopus niger*, Cuvier"; but on referring to the first edition of the 'Règne Animal' (i. p. 469, 1817) I find that Cuvier gives no name to the African bird, and merely remarks, under *Hæmatopus ostralegus*, "On en trouve . . . au Cap une à plumage tout noir"; and in his second edition (i. p. 504, 1829) he describes the Australian species under the name *Hæmatopus niger*.

In 1823 Lichtenstein, in his list of the duplicates in the Berlin Museum (*l. c.*), included, without any description, an Oyster-catcher under the name of *Ostralegus capensis*, which has by some naturalists been supposed to be the African Black Oyster-catcher; but on making enquiries at the Berlin Museum I find that there is no specimen there marked by Lichtenstein as being his *Ostralegus capensis*, and it is there generally believed that under this name he referred to a specimen of the Common Oyster-catcher. Under these circumstances *capensis* cannot be used as a specific name for the present species. On the other hand, however, there are two specimens of the African Black Oyster-catcher in the Berlin Museum, both from South Africa, which are marked by Lichtenstein "*Hæmatopus unicolor*, Forst.," and doubtless his *Hæmatopus unicolor* (Nomencl. Av. p. 93, 1854) refers to these two birds; but again, as the specific title of *unicolor* was preoccupied by Wagler (*Hæmatopus unicolor*, Forst. in MS., Wagler, Isis, 1832, p. 1230) for the New Zealand Oyster-catcher, it cannot be used for the African bird. In 1856 Bonaparte gave the name of *Hæmatopus moquini* to the present species as distinguished from the Australian, which he refers to under the name of *Hæmatopus fuliginosus*, and from the South American species, which he calls *Hæmatopus niger*; consequently Bonaparte's specific name will stand for the African species.

The nearest ally to the present species is the Australasian Black Oyster-catcher, *Hæmatopus unicolor*, which differs in having the bill more elongated and the legs (according to Gould) brick-red instead of deep crimson. There are four known species of the Black Oyster-catcher, two inhabiting the Old World and two the New World, viz. :—

Hæmatopus niger, Pall., which inhabits the Pacific coasts of North America. This bird has the head, neck, and jugulum black tinged with plumbeous, the rest of the plumage being blackish brown; the iris is yellow, and the legs pale flesh-coloured.

Hæmatopus ater (Less.), inhabits the Pacific coast of South America, not occurring north of Chili, the Falkland Islands, and the east coast to Tambo Point. It is said to differ from *H. niger* in having the bill shorter and deeper.

Hæmatopus moquini, of which full particulars are given above. It has the iris bright red and the legs deep red, the plumage being deep black without any brown.

Hæmatopus unicolor, Wagler, which differs from the African species as above stated, and inhabits the southern coasts of the Australian continent, Tasmania, the islands in Bass's Straits, and New Zealand.

The two American species have the iris yellow and the legs and feet pale flesh-coloured ; whereas the two Old-World species have the iris deep red and the legs and feet the one brick-red and the other deep red.

The specimen figured is the male above described and is in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Jandia, Fuerteventura, April 20th, 1888 ; *b*, ♀ . Jandia, May 6th, 1889 (*R. Gomez*).

E Mus. H. B. Tristram.

a, b. South Africa (*E. L. Layard*).



J. G. Keulemans del. et lith.

SHARP-TAILED SANDPIPER.
TRINGA ACUMINATA.

Mintern Bros. imp.

TRINGA ACUMINATA.

(SHARP-TAILED SANDPIPER.)

Totanus acuminatus, Horsf. Trans. Linn. Soc. xiii. p. 192 (1821).

Tringa australis, Jard. & Selby, Ill. Orn. ii. pl. 91 (1829, nec Gmel.).

Schœniclus australis (Jard. & Selby), Gray, List Grall. Brit. Mus. p. 105 (1844, nec Gmel.).

Tringa subarquata, S. Müll. Verh. Land- en Volkenk. p. 110 (1839-44, nec Gûld.).

Tringa pectoralis, Gurney, Zoologist, 1849, p. 2392 (nec Say).

Tringa rufescens, Midd. Sibir. Reise, ii. pt. 2, p. 221 (1851, nec Vieill.).

Pelidna australis, Licht. Nomencl. Av. p. 92 (1855, nec Gmel.).

Actiturus australis, Bp. Compt. Rend. xliii. p. 597 (1856, nec Gmel.).

Tringa acuminata (Horsf.), Swinhoe, P. Z. S. 1863, p. 316.

Limnocinclus acuminatus (Horsf.), Gould, Handb. B. Austral. ii. p. 254 (1865).

Tringa crassirostris, Taczanowsky (nec Temm. & Schleg.), J. f. O. 1873, p. 103.

Pelidna acuminata (Horsf.), Salvadori, Ucc. Borneo, p. 323 (1874).

Tringa (Limnocinclus) accuminata, Casteln. & Ramsay, Proc. Linn. Soc. N. S. W. i. p. 384 (1877).

Actodromas acuminatus (Horsf.), Ridgw. Proc. U. S. Nat. Mus. iii. p. 199 (1880).

Actodromas acuminata (Horsf.), Nelson, Cruise of R.S. 'Corwin,' p. 86 (1883).

Tringa (Actodromas) acuminata (Horsf.), Palmén, Vega-Exped., Fogl. p. 323 (1887).

Heteropygia acuminata (Horsf.), Sharpe, Cat. B. Brit. Mus. xxiv. p. 566 (1896).

Figuræ notabiles.

Jardine and Selby, Ill. Orn. pl. 91; Gould, B. of Austral. vi. pl. xxx.; Nelson, Nat. Hist. Coll. in Alaska, pl. vii.; Sclater, Ibis, 1893, pl. v.

Ad. suprâ nigro-fuscus, plumis conspicuè rufescente et cinereo marginatis, pileo magis rufescente: uropygio et supracaudalibus nigris: remigibus nigro-fuscis, scapis sordidè albidis: rectricibus nigricantibus angustè albo marginatis, medianis elongatis et marginibus rufescente tinctis, omnibus acuminatis et caudâ cuneiformâ: striâ superciliari albâ, nigro guttatâ: gulâ, gutture et pectore albis, nigro guttatis: corpore reliquo subtùs albo, nigro-fusco squamato: pectore et hypochondriis rufescente lavatis: abdomine medio ferè immaculato: rostro nigro-fusco, ad basin olivaceo: pedibus olivaceo-ochraceis: iride fuscâ.

Juv. corpore suprâ adulto similis, sed sordidior et saturatior: striâ superciliari albidior et majore: corpore subtùs nec squamato, sed mento et gulâ ferè albis: gutture et pectore brunnescenti-cervinis vix fusco striatis: corpore reliquo subtùs albo.

Adult Male (Shanghai, April). Upper parts with the feathers blackish brown, broadly margined with rufous and ashy grey, those on the crown rather more rufescent; rump and upper tail-coverts black; quills blackish brown, with dull white shafts; tail-feathers blackish, narrowly margined with white; the median ones longer than the others, and with the margins tinged with rufous, all the

rectrices pointed, the median ones more so than the others; a streak over the eye white, spotted with black; underparts white, the throat and upper breast spotted with black, and the rest of the underparts marked with large V-shaped or squamate blackish markings; breast and flanks washed with rufous: bill olivaceous at the base, otherwise blackish brown; legs yellowish olive; iris hazel-brown. Total length about 8·0 inches, culmen 1·25, wing 5·3, tail 2·15, tarsus 1·2.

Young (Yokohama). Differs from the adult in having the upper parts darker, the streak over the eye broader and whiter, and the underparts without any squamate markings, the chin and upper throat with scarcely any markings, the lower throat and breast warm buff faintly streaked with brown, and the rest of the underparts pure white.

THE range of the present species is very extensive, as it has been recorded from Northern India eastward to China and Japan, northward through Eastern Siberia to Kamtschatka and Alaska, and south to the Pelew Islands, the Sunda Islands, and the Moluccas to New Guinea, New Ireland, the Friendly Islands, Australia, and New Zealand.

It has also strayed to England, where it seems to have occurred *twice*—the first specimen now in the Norwich Museum, and said to have been killed on the Denes of Great Yarmouth at the end of September, 1848, but at the time believed to be and consequently recorded (Zoologist, 1849, p. 2392) as a “Pectoral Sandpiper,” having been sent to the late Mr. J. H. Gurney, who subsequently suspected (*tom. cit.* p. 2568) he might have been deceived as to the place where it was procured. Through the vigilance of Mr. Lowne, one shot by Mr. T. Ground, 29th August, 1892, on the mud-flats of Breydon Broad, near the same town, was brought to the notice of Mr. Southwell, who, after it had been determined by Mr. Gurney, Jun., at once recorded it in the ‘Zoologist’ for October in that year (pp. 356–358). Mr. Southwell’s attention having been thus called to the subject, he found that the former specimen undoubtedly belonged to this species, and recorded the fact in the same journal for the following month (pp. 405, 406), beside bringing the matter before the Norfolk and Norwich Naturalists’ Society on the 27th of September, in whose ‘Transactions’ (vol. v. pp. 364–368) his remarks may be read. Mr. Ground’s example was also exhibited to the Zoological Society of London, at its meeting on the 15th November (P. Z. S. 1892, p. 581). Subsequently these particulars were partially communicated to ‘The Ibis’ for 1893 (pp. 181–185) by the late Mr. Seebohn, and a figure from Mr. Ground’s specimen was then given (pl. v.) by the Editor.

So far as I am aware this Sandpiper has not been met with in Continental Europe, and in Asia I do not find it recorded from anywhere west of Gilgit, where Col. John Biddulph (Ibis, 1882, p. 287) shot a single specimen, a male in adult plumage, on the 1st August. It was, he says, flying about with a number of *Machetes pugnax*. It has not been observed by any of the Indian ornithologists, nor do I find any record of its occurrence between Gilgit and China, where, according to Père David (Ois. de la Chine, p. 470), large numbers pass along the coast in the spring, and late in the summer it is very numerous in marshy places near Pekin; and Mr. Swinhoe (Ibis, 1863, p. 412) found it very abundant on the marshes of Takoo, North China, in August, when a few may always be seen passing southwards. They return north late in May, and he procured specimens on the 18th and 21st of that month. According to Mr. Styan (Ibis, 1891, p. 506) it passes Shanghai in fair numbers in April and May; and it is abundant at Foochow at the same time. In Japan it appears to occur regularly on passage.

Messrs. Blakiston and Pryer say that it is often obtained near Yokohama, and has been collected at Nagasaki. Mr. Whitely (*Ibis*, 1867, p. 205) obtained it near Hakodadi in September and October. M. Kalinowski obtained two males at Chemulpo, in Corea, in May, but did not meet with it again during the time he spent in exploring Corea.

In Eastern Siberia it was first observed by von Middendorff on the south coast of the Sea of Okhotsk on the 12th July; Messrs. Dybowski and Godlewski met with it on the southern Baikal, in Southern Dauria, and on the coasts of the Sea of Japan. Dybowski observed it in Kamtschatka and on the Commander Islands, and Mr. Stejneger obtained young specimens on Bering Island during the autumnal migration of 1882. From the middle of September and during the following three weeks, he says, they were observed both on the tundra near the great lake and on the rocky beach of the ocean searching for Gammarids. They were very shy, and mostly single or in small families. Larger flocks were never seen.

Mr. Nelson who records it from the N.E. coast of Siberia and Alaska, writes (*Cruise of R.S. 'Corwin,'* p. 86) as follows:—"The first knowledge of this bird's occurrence on the coast of America was obtained by me at St. Michael's, where it is an abundant species every autumn, coming during August and remaining until the sharp frosts of the approaching winter cause it to hasten away. Following my capture of the species comes the capture on the coast of Kotzebue Sound, at Hotham Inlet, the 1st September, 1880. by Captain Hooper, on the 'Corwin' during his first cruise in the Arctic; and on the 9th of September the same season Dr. Bean, on the coast survey schooner 'Yukon,' secured a second specimen at Port Clarence, Bering Strait, and this concludes our present knowledge of the distribution of the species on the American coast. During the summer of 1881, on the 1st August, we landed from the 'Corwin' on the north-east coast of Siberia, in the vicinity of Cape Waukarem, and found these birds numerous, feeding on the flats which were closely bordering the shores of the Arctic Ocean, and sparingly grown up with fine grass. From the actions of the birds at this time it was evident that they had nested in the vicinity, and this region is probably the true summer home of this handsome species."

It was, as above stated, first recorded from the North American continent by Mr. Nelson, who obtained a female near St. Michael's, Alaska, on the 16th September, 1877, which was shot, he says (*Nat. Hist. Coll. made in Alaska*, p. 106), "on a muddy bank of a tide creek as I was passing in a kyak." Later in the season others were seen, and during each of the succeeding autumns they were found to be one of the most common species of Snipe about St. Michael's, frequenting the borders of brackish pools and tide creeks in company with *T. maculata*, the Red-breasted Snipe, and several other species.

In the winter it ranges very far south, and has been recorded from the Philippines, Pelew and Sunda Islands, New Guinea, New Ireland, and the Friendly Islands. Horsfield obtained it in Java, and Dr. A. B. Meyer records it (*Ibis*, 1879, p. 143) from Celebes. In Australia, according to Mr. Gould (*Handb. B. of Australia*, ii. p. 254), it is generally distributed in all parts of the country, including Tasmania, and in New Zealand a pair were received by Dr. Haast from Lake Ellesmere, and Mr. Potts (*Trans. N. Z. Inst.* v. p. 198) described the male in summer plumage.

Referring to its habits, Mr. Nelson says (*l. c.*):—"They were nearly always associated with *T. maculata*, whose habits they shared to a great extent. When congregated about their feeding-places, they united into flocks of from ten to fifty, but single birds were frequently flushed from

grassy spots. Their motions on the wing are very similar to those of the latter, and they were rarely shy. On October 1st, 1880, they were found scattered singly over the marsh, and rose 30 to 40 yards in advance, and made off with a twisting flight, uttering at the same time a short, soft, metallic *pleep, pleep*, and, pursuing an erratic circuitous flight for a time, they generally returned and settled near the spot whence they started." Those observed on the coast of Siberia were, he says, very unsuspicious, and allowed him to pass close to them, or circled close about him. They sometimes remain on the shore of Norton Sound up to the 12th of October, and he has seen them searching for food along the tide-line when the ground was covered with two inches of snow. "When feeding along the edges of the tide creeks they may almost be knocked over with a paddle, and when a flock is fired into it returns again and again." Mr. Gould also writes (*l. c.*) that in Australia "The sandy beaches of the sea-coast and the banks of the rivers in the interior of the country are equally visited by it; and in all such situations it is to be seen either in pairs or in small parties of from six to fifteen in number. It is very fearless, and will allow of the nearest approach before it will take wing. In its economy it appeared to me to hold an intermediate station between the Sandpipers and true Snipes. It is a bird especially fond of the grassy sides of lagoons and open wet marshy places, where it trips over the herbage which rests on the surface of the water, and sometimes wades up to its body in search of insects. Its flight resembles that of the true Snipes. Of the specimens killed, by far the greater number were birds of the year." Nothing appears to be known respecting the nidification of this Sandpiper, which doubtless breeds in Arctic Siberia. Three eggs of a Sandpiper were obtained on the 'Vega' expedition at the winter-quarters on the 3rd July, 1879, which Professor Palmén (Sib. Ishafsk. Fogelf. p. 323) thinks were very probably those of the present species, but as they were absolutely unidentified this is merely a surmise on the part of the Professor. Meves describes these eggs as having the ground-colour greyish white with a yellowish tinge, the shell-markings reddish grey, the spots small, rusty brown or liver-brown, becoming confluent at the larger end, where the ground-colour is scarcely visible. The shape is pure oval, not the least diminished at the pointed end; they agree both in weight and size as well as in grain of shell with some eggs of *Limicola platyrhyncha*, but differ considerably from those of *Tringa alpina*. The measurements and weights are given by Meves as follows:— 32×23 mm., weight 0.38 gr.; 33×22.8 mm., weight 0.38 gr.; and 31.5×23.3 mm., weight 0.40 gr.

The specimens figured are those above described, and are in my own collection.

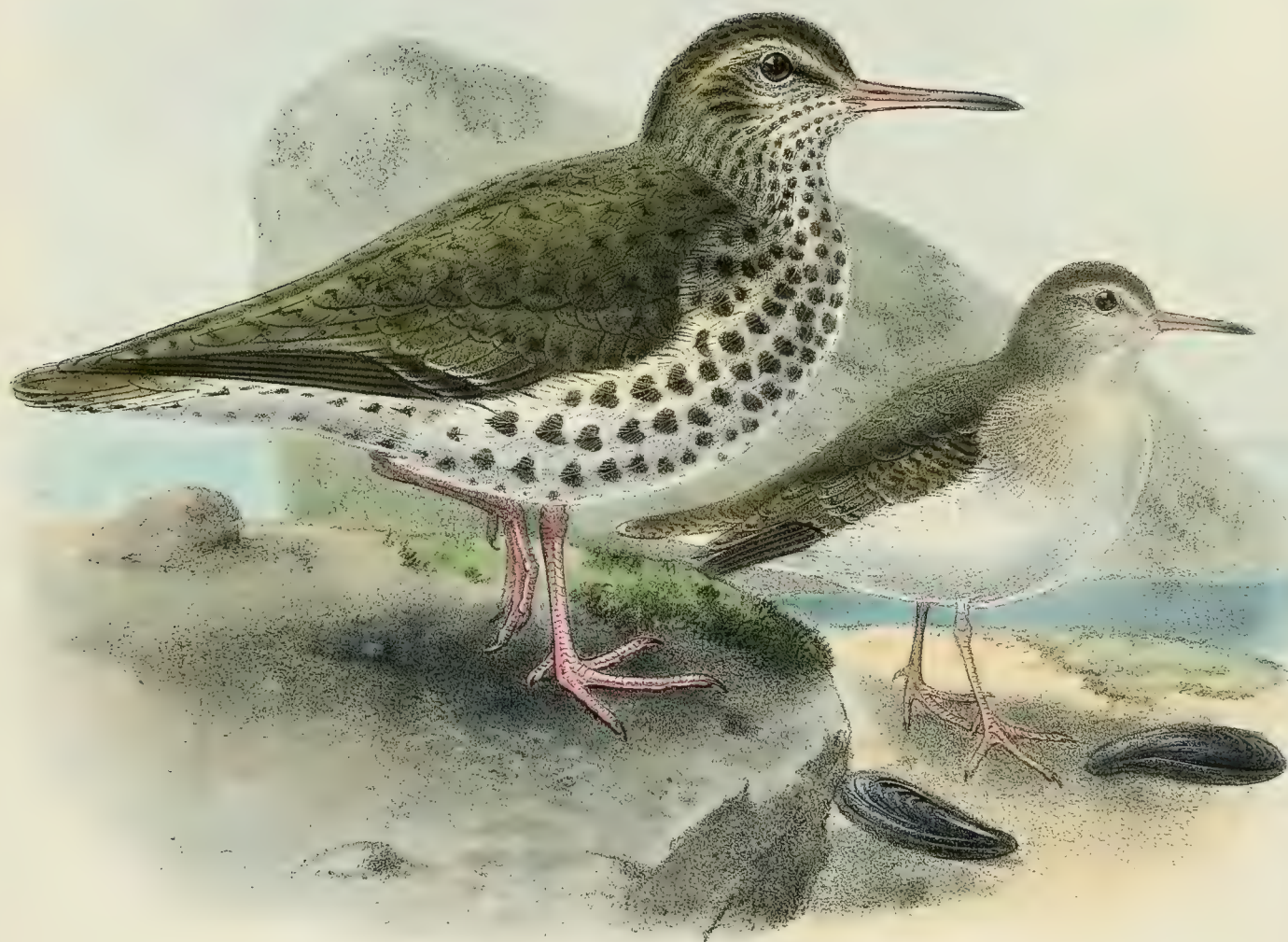
In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Shanghai, April 1873 (*R. Swinhoe*). *b*, *juv.* Yokohama (*H. Pryer*).

E Mus. H. B. Tristram.

a. Takow, Formosa, 1860; *b*, ♂. Shanghai, April 1873 (*R. Swinhoe*). *c*, ♂. Hakodadi, October 29th, 1893; *d*, *e*. Yokohama (*Henson*).



J.G. Keulemans lith.

Hanhart imp.

SPOTTED SANDPIPER.
TOTANUS MAEULARIUS.

TOTANUS MACULARIUS.

(SPOTTED SANDPIPER.)

Tringa macularia, Linn. Syst. Nat. i. p. 249 (1766).

The Spotted Tringa, Edw. Gleanings, ii. p. 139, pl. 277 (1806).

Totanus macularia (Linn.), Temm. Man. d'Orn. p. 422 (1815).

Totanus macularius (Linn.), Vieill. Nouv. Dict. vi. p. 406 (1816).

Actitis macularia (Linn.), Boie, Isis, 1826, p. 979.

Tringoides macularia (Linn.), Gray, Gen. of B. iii. p. 574 (1846).

Actitis notata, Bonap. Compt. Rend. xliii. p. 597 (1856).

Actitis wiedi, id. ut suprâ.

Tringoides macularius (Linn.), Gray, Hand-l. of B. iii. p. 46. no. 10280 (1871).

Tringites macularius, Selater & Salvin, P. Z. S. 1873, p. 309.

Totanus hypoleucus, var. *macularius*, Ridgw. Ann. Lyc. New York, x. p. 384 (1874).

Figuræ notabiles.

Edwards, Gleanings, pl. cclxxvii.; Gould, B. of Eur. pl. ccxvii.; id. B. of Great Britain, iv. pl. lix.; Wilson, Am. Orn. vii. pl. lix. fig. 1; Audubon, B. of Am. pl. ccex.; id. 8vo ed. v. pl. ccxlii.; id. Orn. Biogr. iv. pl. ccex.; Naumann, Vög. Deutschlands, Taf. cxcv.; Reichenb. Grallæ, tab. lxxiv. fig. 591, tab. ccclviii. figs. 211, 212.

Ad. capite et corpore suprâ fusco-olivaceo metallico nitente, capite et collo postico nigricante striatis, corpore reliquo suprâ nigricante guttato, fasciato et notato, sed uropygio et supracaudalibus ferè immaculatis: remigibus olivaceo-fuscis, primariis vix albo apicatis et in pogonio interno plagâ albâ notatis: secundariis ad basin albis et albo terminatis: rectricibus medianis dorso concoloribus, reliquis albo apicatis et nigro-fusco fasciatis: corpore subtùs et striâ superciliari albis, illo ubique nigro-fusco guttato: rostro ad basin carneo, versus apicem sordidè fusco: pedibus pallidè carneo-rubris: iride fuscâ.

Juv. corpore suprâ olivaceo-fusco nec metallico nitente et vix nigro-fusco notato, sed tectricibus alarum nigricante fasciatis: mento, gulâ et corpore subtùs albis immaculatis, sed gutturis lateribus pallidè cinereo-fusco lavatis.

In immature plumage the present species closely resembles *Totanus hypoleucus*, but may be distinguished by having all the secondaries broadly barred with ashy brown, whereas *T. hypoleucus* has some of the innermost secondaries nearly pure white.

Adult Female (Washington, April 24th). Upper parts brownish olivaceous, with metallic gloss; head and neck striped with blackish, the rest of the upper parts with blackish-brown bars, stripes, and spots, but the rump and upper tail-coverts are very slightly marked; quills olivaceous brown, the primaries very narrowly tipped with white, and with a large white blotch on the inner web; secondaries white at the base, and broadly tipped with white; median tail-feathers like the back, the remainder tipped with

white and irregularly barred with brownish black ; underparts and a superciliary line white, the throat with smaller, and the rest of the underparts with larger, brownish-black spots : bill flesh-coloured at the base, otherwise dusky ; legs pale pink ; iris brown. Total length about 7·5 inches, culmen 1·15, wing 4·1, tail 2·05, tarsus 0·95.

Young (Washington, August 3rd). Upper parts dull olivaceous brown, without any metallic lustre and without the blackish markings, except on the wing-coverts, which are barred with dull blackish ; chin, throat, and underparts white, unspotted, the lower neck washed on the sides with pale ashy brown.

Young in down (Koshkonong Lake, June). Upper parts greyish stone-colour, with darker marblings ; a stripe from the base of the bill through the eye to the ear, one from the crown down the centre of the nape, and a broad one along the middle of the back blackish brown ; underparts white.

A COMMON and widely distributed species in America, the Spotted Sandpiper is said to have occasionally strayed across the Atlantic to Great Britain. It has been recorded as having been obtained here on more than thirty occasions, but most of these are undoubtedly cases of mistaken identity ; and Mr. J. H. Gurney, who has most carefully sifted all the evidence obtainable respecting these alleged occurrences, informs me that only three are, in his opinion, above suspicion. Many of these erroneous occurrences may have arisen from the fact that they have been identified by comparison with the drawing in Bewick's 'British Birds,' which, as pointed out by Mr. Gurney, really represents the Common Sandpiper (*Totanus hypoleucus*), and not the present species. I quite agree with Mr. Howard Saunders (Man. Brit. B. p. 592) that it would be most desirable to be able to examine a specimen killed by some trustworthy person in Great Britain ; but I think it advisable not to exclude it as a rare straggler, and have given careful figures of the adult and young to assist in identification of any specimen that may hereafter turn up, and may point out that in immature dress it may readily be distinguished from the young of our Common Sandpiper in having all the secondaries barred with ash-brown, whereas in *Totanus hypoleucus* the eighth and ninth are nearly white.

The occurrences which Mr. Gurney considers to be undoubted are the following:—two obtained at Warrington, in Lancashire, in May 1863 (Smith, Notab. Mersey Distr. p. 51) ; one obtained at Eastbourne, Sussex, in October 1866, and now in the collection of Mr. J. H. Gurney ; and two, a male and female, which, according to Mr. Robt. Gray (B. of W. of Scotl. p. 299), "were left at the Aberdeen Museum in August 1867, in the absence of Mr. Mitchell, who up to the present moment does not know by whom the birds were presented, or where they were shot. Both were in the flesh, and had not been long dead ; they were very prettily marked, and somewhat dissimilar in size, the male being the larger. The female is now in Mr. Angus's cabinet ; the other specimen has been kindly presented to me by Mr. Mitchell, and is now in my own collection."

It has, so far as I know, never occurred in Greenland ; and though it is stated to have been obtained in Germany and Italy, there appears to be great doubt as to the authenticity of these alleged occurrences. Naumann (Vög. Deutschlands, viii. p. 41) includes it as having been "killed on a few occasions on the Rhine or Main, and also having occurred on the Baltic," but adds that he never had an opportunity of examining any of these specimens. Count Nicolo

Contarini, in his 'Catalogo degli Uccelli del Veneto,' states that it occurs at the two seasons of migration on the coasts of the Adriatic; and Mr. Luigi Althammer (Naumannia, 1858, p. 167) says that he examined specimens in the Count's collection which were in full spring plumage; but more recent writers on the ornithology of Italy disbelieve the authenticity of these specimens, and I am inclined to agree with them. Mr. Gätke believes that it has been obtained on Heligoland, and says (Die Vogelw. Helgoland, p. 495) that about the latter half of the thirties Hans Tonnies, a gunner, shot during the month of May, by a small pond on the Upper Plateau, what was described as a Soaltpieper (*Totanus hypoleucus*), "quite similar to the common species, but having a small round black spot on each of the white feathers of the underside." Tonnies considered it to be a mere variety, as he knew nothing of the Spotted Sandpiper, and disposed of it to a visitor. In May 1847 Claus Aeuckens noticed a small Sandpiper which he described to Mr. Gätke as being "white on the underside, with many black spots in form like the small roundish black spots of the Missel Thrush," and as Aeuckens knew nothing of *Totanus macularius*, Mr. Gätke believes it to have been that species.

In America, which is the true home of this Sandpiper, it has a wide range, and is, according to Messrs. Baird, Brewer, and Ridgway (Water-Birds of N. America, i. p. 302), "one of the most common as well as most widely distributed species. It is found throughout nearly all North America, in the interior and on the shores of both the Pacific and the Atlantic Oceans, breeding wherever found, from Texas to Alaska, and from Florida to Fort Anderson. That it is regular in its occurrence would appear from the fact that Richardson nowhere met with it in the Fur Region, neither in the interior nor on the sea-coast. It is found in Bermuda and in nearly all the West India Islands, breeding in some of them, and is met with in winter in Mexico, Central America, and different parts of South America."

I found it abundant near San Antonio in Texas in September and October, and shot a single specimen near Matamoros in Mexico in August; and Mr. White obtained it near the city of Mexico in the winter. Mr. Salvin (Ibis, 1859, p. 230) met with it on the rivers of Guatemala both on the tableland and on the coast in the winter; Mr. Wyatt observed it near Ocaña in Columbia; and Frantzius records it (J. f. O. 1859, p. 377) from Costa Rica. It occurs regular on migration in the islands all along the Atlantic coast. Messrs. A. & E. Newton say (Ibis, 1859, p. 257) that it is tolerably common in St. Croix, and probably remains there through the winter; Mr. E. C. Taylor speaks of it (Ibis, 1864, p. 95) as being very abundant in Trinidad, where it was also met with by Léotaud (Ois. Trinidad, p. 461); Mr. Lister includes it as occurring in the island of St. Vincent; Gosse records it from Jamaica as being common, arriving late in August and remaining until after the middle of April; Gundlach speaks of it (J. f. O. 1875, p. 325) as found in Cuba on passage in September and May, and he also (J. f. O. 1878, p. 188) states that it is common in Porto Rico after September; Major Wedderburn speaks of it as common in the Bermudas; and Col. Feilden says (Ibis, 1889, p. 496) that it is very common in Barbados, arriving in large numbers in July and August, and adds that he has been assured on good authority that examples may be met with in the island during every month of the year.

When I was in New Brunswick this appeared to be the commonest Sandpiper of those that were found there during the summer, and I observed it almost daily. It was by no means shy, but, on the other hand, tame and fearless unless molested. I usually met with it on the banks of

streams and on the shores of the numerous lakes which are scattered over the province. So far as I could ascertain, it arrived there early in May and soon commenced nidification. I seldom met with it on the coast, but generally inland, and not consorting with other Sandpipers, and after the breeding-season it does not appear to collect in flocks, as so many other Sandpipers do. Its flight is swift and somewhat irregular, and in the early summer I frequently saw it performing aerial evolutions at no great altitude. It runs swiftly, and may often be seen running on the timber logs and on the pole fences, nodding its head and flirting its tail. When wounded it will take to the water and swims with ease. Its note is a clear melodious whistle.

Messrs. Baird, Brewer, and Ridgway say (*L. c.*) that it arrives in Massachusetts late in April "in small roving flocks, and for a while moves about in a brief and even sportive manner, flying back and forth along and across the smaller streams, performing strange aerial evolutions, seemingly more for its own enjoyment than in quest of food. As these birds move about—and more especially when they meet other flocks of their own species—they give utterance to their cheerful and lively whistle, which is loud and shrill, and not unlike the syllables *peet-weet* several times repeated. Toward the close of the refrain the notes are lower and the sound more plaintive. A little later in the season they separate into pairs along the banks of smaller streams, and usually nest in freshwater meadows, or in low uplands not far from water; occasionally they nest in uplands not far from the sea. Sometimes this bird is so familiar as to make its nest within a garden, and not far from the house. In one instance Mr. Nuttall found its eggs in the strawberry-beds of a resident of Belmont, Mass., while young and old familiarly fed on the margin of an adjoining duck-pond.

"This species has a very characteristic habit of vibrating its tail and moving its head and body, as if balancing itself, the head and tail being alternately depressed and elevated. When excited, and anxious for the safety of its young, this vibratory motion is especially noticeable, and is joined with plaintive cries of *peet-weet-weet*." It feeds on worms, insects, and small mollusks, and during the winter is seen to frequent the sea-shore, following the retreating waves and picking up its food like the Dunlin. It is also said to visit ploughed fields in search of worms and insects of various kinds.

Its breeding-range is extensive, as it has been found nesting from the extreme northern portions of its range down to the southern limits of the United States. It is said to nest in damp marshy places and in grass-fields, but I always found the nests on the borders of streams, generally not far from the water. The nest is a mere depression in the ground, lined with grass-bents or pieces of dry herbage, and tolerably well concealed. As a rule, the lining of the nest is very scanty, but nests found by Audubon in Labrador were, he says, made of dry moss raised to the height of several inches, and well finished within with slender grasses and feathers of the Eider Duck, and were concealed under ledges of rocks.

Messrs. Baird, Brewer, and Ridgway say (*Water-B. of N. Am. i. p. 304*) that "the young run about with remarkable ease and swiftness almost as soon as they are out of the shell. When danger approaches they immediately, upon an alarm signal from their parents, run and hide themselves, squatting close to the ground, and there remaining perfectly immovable, resembling a small drab-coloured stone with a single streak of black down the middle. If the young bird finds itself discovered, and an attempt is made to take it, it runs with great celerity, uttering the most

plaintive cries, and at the same time the parents exhibit symptoms of distress and counterfeit lameness with great skill.

“Mr. Bartram informed Wilson that he saw one of these birds defend her young for a considerable time from the attacks of a ground squirrel. The mother threw herself, with her two young behind her, between them and the land, and at every attempt of the squirrel to seize them raised both her wings in an almost perpendicular position, assuming the most formidable appearance she could, and rushing forward on the squirrel endeavoured to drive it back. The young crowded together close behind her, sensible of their perilous situation, moving backward or forward as she advanced or retreated. This lasted some ten minutes, and would have terminated disastrously for the young birds, had not Mr. Bartram interposed for their rescue.”

The eggs, four in number, are deposited in May, June, or July according to latitude, are pyriform in shape, and are creamy drab or creamy ochreous in ground-colour, and are marked within distinct neutral tint underlying shell-blotches and rich dark brown surface spots and blotches, which have sometimes a tinge of purple. In size those in my collection vary from 1·07 by 0·87 inch to 1·30 by 1, and 1·35 by 0·97 inch.

The specimens figured are the adult and young birds above described, and are in my own collection.

In the preparation of the above article I have examined besides those in the British Museum the following specimens:—

E Mus. H. E. Dresser.

a, *ad.* Calais, Maine, 1863 (*G. A. Boardman*). *b*. New Jersey (*J. Krider*). *c*, ♂ *ad.* Washington, D.C., May 10th, 1862; *d*, ♀ *ad.* Washington, April 24th, 1860; *e*, *juv.* Washington, August 3rd, 1859 (*Dr. Elliott Coues*). *f*, *half-down*. June 23rd; *g*, *young in down*. June, Koshkonong Lake, Winconsin (*Dr. T. M. Brewer*). *h*. Near City of Mexico, winter (*G. H. White*). *i*, ♀. Guatemala, winter (*Dr. T. M. Brewer*).



J. J. Audubon del.

H. M. Collins sculp.

SOLITARY SANDPIPER.
TOTANUS SOLITARIUS

TOTANUS SOLITARIUS.

(SOLITARY SANDPIPER.)

- Green Sandpiper*, var. B, Lath. Gen. Synops. iii. pt. 1, p. 171 (1783).
Tringa ochropus, var. β , id. Ind. Orn. ii. p. 730 (1790).
Tringa solitaria, Wilson, Am. Orn. vii. p. 53 (1813).
Totanus chloropygius, Vieill. Nouv. Dict. vi. p. 401 (1816).
Totanus punctatus, id. tom. cit. p. 411 (1816).
Totanus caligatus, Licht. Verz. Doubl. p. 74 (1823).
Totanus macroptera, Spix, Av. Brasil. ii. p. 76, pl. xcii. (1825).
Tringa glareola, Ord, ed. Wils. Am. Orn. vii. p. 57 (1825, nec Linn.).
Totanus solitarius (Wils.), Audubon, Synop. p. 242 (1839).
Totanus macropterus, Spix, Gould in Darwin's Voy. 'Beagle,' Birds, p. 129 (1841).
Rhyncophilus chloropygius (Vieill.), Bp. Compt. Rend. xliii. p. 597 (1856).
Rhyncophilus caligatus (Licht.), Bp. ut suprâ (1856).
Rhyncophilus solitarius (Wils.), Cassin in Baird's B. of N. Am. p. 733 (1858).
Totanus chloropus, var. *solitarius*, Ridgw. Ann. Lyc. N. York, x. p. 384 (1874).
Totanus guttatus, Illiger in Mus. Berol., fide Gieb. Thes. Orn. iii. p. 648 (1877).
Helodromas solitarius (Wils.), Sharpe, Cat. B. Brit. Mus. xxiv. p. 444 (1896).
Zarapico, *Titera*, Cuban ; *Chorlito del Rio* in Colombia.

Figuræ notabiles.

Wils. Am. Orn. vii. pl. lviii. fig. 3 ; Audubon, B. Am. 8vo ed. v. pl. cccxliii. ; Spix, Av. Brasil. pl. xcii. ; Reichenb. Grall. tab. lxxiv. fig. 584 ; Lilford, B. of Brit. Isl. part xxvi.

Ad. pileo et collo postico viridi-fuscis, hoc profusè et illo indistinctè albido striatis : corpore suprâ viridi-fusco, albido guttato, sed uropygio et supracaudalibus indistinctè guttatis : remigibus nigro-fuscis, primariis leviter æneo-nitentibus : rectricibus medianis viridi-fuscis, reliquis albis nigro-fusco transfasciatis : subtùs albus, gulâ fumoso-fusco striatâ et pectore conspicuè eodem colore fasciato et notato : hypochondriis axillaribus et subalaribus albis, viridi-fusco transfasciatis : rostro nigro-fusco, ad basin mandibularum virescente : pedibus sordidè viridibus : iride fuscâ.

Adult in summer (Musquash, June 6th). Upper parts dark greenish brown, the crown slightly and the hind neck more profusely striped with white ; rest of the upper parts dotted with white, the rump and upper tail-coverts less marked ; quills brownish black, the primaries slightly glossed with bronze ; median tail-feathers greenish brown, the rest white barred with brownish black ; underparts white, the throat striped with smoky brown, the breast boldly barred and marked with the same colour ; flanks, axillaries, and under wing-coverts white, closely barred with greenish brown : bill at the base of the mandibles dull greenish, otherwise brownish black ; legs dark greenish ; iris brown. Total length about 8 inches, culmen 1.35, wing 5.25, tail 2.3, tarsus 1.28.

Adult in winter (City of Mexico). Upper parts rather duller and greyer, the spots buffy white, the markings on the throat and breast more obscure and duller in tinge of colour.

Obs. Messrs. Baird, Brewer, and Ridgway describe the winter plumage of the adult as being "similar to the summer dress, but dark ashy above, less distinctly speckled, the forehead very indistinctly streaked or simply washed with ashy"; and that of the young as "above greyish brown, lighter and more olivaceous than in the adult, thickly speckled with buff; crown and nape pale brownish grey; cheeks and sides of neck nearly uniform grey; forehead streaked as in the adult, and feet more greyish than in the adult."

LIKE the preceding species, this is only an accidental visitor to us from the American continent, and has been recorded as having been obtained in Great Britain on three occasions, but has not been noticed elsewhere in Europe. The first occurrence was recorded by Mr. Robert Gray (*Ibis*, 1870, p. 292) as of one shot some years previously by the late Mr. William Gordon, of Airdrie, somewhere on the banks of the Clyde in the higher grounds of Lanarkshire, and was examined and identified by Mr. Gray; the second was, as I am informed by Mr. Jenkinson, who kindly sent me the specimen for examination, shot in the moors on St. Mary's, Scilly, on the 19th September, 1882, by a man named Joe Smith, who shoots Snipe and Woodcocks on St. Mary's when Mr. Dorrien Smith himself is not there; and the third occurrence was that of one shot, as I was informed also by Mr. Jenkinson, by young Mr. Vingoe, in Marazion marshes, Cornwall, in October 1884, and was sold at Stevens's auction-rooms on the 13th May, 1889, when Mr. Vingoe's collection was dispersed under the hammer. The bird killed on St. Mary's is, I believe, in the collection of Mr. Dorrien Smith.

In America the Solitary Sandpiper has a very extensive range, being found as far north as about 65° N. lat. in the fur countries, where it breeds, down to Argentina, in South America, in the winter season. Sir John Richardson met with one at Great Bear Lake, in latitude 64° 30', on the 14th May, 1826; Mr. Dall observed it at Nulato; Mr. Ross records it from the Mackenzie River, and Captain Blakiston (*Ibis*, 1862, p. 9) from the forks of the Saskatchewan in May. It is found throughout British North America: I observed several pairs on the Musquash River, in New Brunswick, during the two summers I remained there; and Mr. Boardman records it as a regular summer visitant near Calais, in Maine, but never numerous. Throughout the entire United States it is generally distributed during the two seasons of migration, but, so far as I can gather, it does not appear to be anywhere numerous, and probably does not winter even in the furthest south of the States. I met with it on the Rio Grande in August, and near San Antonio, Texas, in April; and Mr. Lloyd (*Auk*, 1887, p. 186) found it tolerably common in Western Texas from September 5th to the 22nd, a few only remaining until October, but he rarely noticed it in the spring. Mr. White also obtained it near the city of Mexico, Mr. Sallé at Orizaba and Cordova, and Mr. Whitely in Honduras. Barrows (*Auk*, 1884, p. 315) met with it in small parties at Concepcion, Uruguay, in August, September, and October; and Messrs. Salvin and Godman record it (*Ibis*, 1880, p. 178) from Santa Marta, Colombia, in December. Count von Berlepsch (*J. f. O.* 1874, p. 259) gives a detailed list of the localities where it has been observed in South America, as far south as the Rio Plata and Argentina, and it was also observed by Mr. Barrows between Buenos Ayres and Azul in January. It is also tolerably common during migration on

the islands off the east coast of America. Messrs. A. & E. Newton (*Ibis*, 1859, p. 257) met with it in July and August in the island of St. Croix, where it is, they say, pretty common, arriving about the same time as the Yellowshanks. Léotaud (*Ois. Trinid.* p. 451) states that it arrives in Trinidad in August and leaves in October; Gosse records it from Jamaica, Sundevall from Porto Rico, Gundlach from Cuba, where it is common during migration, and Messrs. Wedderburn and Hurdis from Bermuda, where it is common in August and September, and some were seen in July and April; and Colonel Feilden (*Ibis*, 1889, p. 496) says that it arrives in Barbados in July and remains till the end of November.

I see that some authors remark that this is by no means a solitary bird, but, so far as my own experience goes, I consider that Wilson's name is quite suitable, for I have never seen it in flocks but always singly or in small parties of two or three. When I first met with it in the woods of New Brunswick during the breeding-season, I was greatly struck by its similarity, in habits, to our European *Totanus glareola*. Almost every small stream held a pair, which seemed to reside there alone, for I do not remember to have found more than one pair frequenting the same stream. Their flight is easy and swift, much resembling that of our Wood-Sandpiper. I usually met with them on the banks of streams or lakes, or in the alder swamps, and never observed them perch on a branch, though they would run over the roots which often form a tangled lacework in the swamps; but they seem to prefer to seek their food, which consists of worms and small insects, in places on the edges of streams and pools where there is but little vegetation. In Texas and Mexico, where I met with it in the autumn and in spring, I only saw it singly or in twos or threes frequenting inland pools or the banks of rivers. As a rule I did not find it shy, and, when undisturbed, by using care I have approached close to them when they were busily engaged in seeking for food on the banks of the streams. They are, as a rule, very silent, and I have only heard them utter a sharp whistle when they suddenly take to flight.

Mr. Henshaw says that he frequently met with this Sandpiper in the west in mountainous localities, on the borders of such small ponds as are wholly surrounded by dense forests growing almost to the water's edge. He remarks that he found it "far from solitary, and rarely to be seen alone, little companies of six or seven being quite usual, and not unfrequently more may be seen together," which is, as above mentioned, contrary to my own experience.

The breeding-range of the Solitary Sandpiper extends, according to Dr. Brewer, over the region north of latitude 44°, but to what extent north is uncertain. According to Audubon it nests in Louisiana, to Wilson in Pennsylvania, and Mr. Giraud says it is found on Long Island from May to September; but these statements require confirmation. Mr. Henshaw believes that it breeds in parts of Utah, Colorado; and Mr. Nelson, in his "Notes on the Birds of North-eastern Illinois," states that he has several times taken young birds near a prairie slough, which were just able to fly, and observed adult birds throughout the breeding-season. It certainly breeds on the river St. Croix near Calais, Maine, where my friend Mr. George A. Boardman has met with it regularly during the breeding-season. During the two seasons I collected in New Brunswick, I saw several pairs near Musquash which were evidently breeding, but in spite of every endeavour I could not succeed in finding the nest. They frequented dense alder swamps on the borders of small streams, and I spent many days hunting through these swamps and watching the birds but without success; and it must be a most difficult nest to find, as no

American naturalist has yet secured undoubtedly authentic eggs. Dr. Brewer says (Water-B. of N. Am. i. p. 282) that "eggs of *T. macularius*, as a general rule, are made to do duty for those of this species. The only egg which I have seen, and have reason to accept as authentic, was one taken in May 1878, by Mr. Jeuness Richardson, near Lake Bombazine, Vermont. The nest was on the ground, and the female parent was shot as she left it. The egg measured 1.37 by .95 inch, the ground-colour being a light drab, similar to that of *Ægialitis meloda*; over this were scattered small rounded markings of brown, some of these quite dark, nowhere confluent, and not large enough to be called blotches. At the larger end there were a few faint purplish or lilac discolorations or shell-marks. The egg was elongated pyriform in shape."

In general appearance the present species most nearly resembles our Wood-Sandpiper, but has the wing longer, and may readily be distinguished by its having the upper tail-coverts and central rectrices like the back, whereas in *T. glareola* the upper tail-coverts are nearly white. It has also the outer tail-feathers very distinctly barred with black and white, the white bars being broader than in the Wood-Sandpiper. It has, however, like the Green Sandpiper, only one large notch on each side of the posterior margin of the sternum, and is therein nearly allied to that species.

The specimen figured is the bird shot at St. Mary's, Scilly, on the 19th September, 1882, for the loan of which I am indebted to Mr. Jenkinson, and the specimens described are in my own collection.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, *ad.* Musquash, New Brunswick, June 6th, 1860 (*H. E. Dresser*). *b*. City of Mexico, winter (*G. H. White*).
c, ♂, *d*, ♀. West Flamboro', Ontario, May 29th, 1893 (*K. C. McIlwraith*).

E Mus. Dorrien Smith.

a. St. Mary's, Scilly, September 19th, 1882 (*J. Smith*).

E Mus. H. B. Tristram.

a, b. Bermuda, 1848 (*J. W. Wedderburn*). *c*. River St. Croix, New Brunswick, 1864 (*G. A. Boardman*).



Totanus flavipes Linn.

Hunhart imp

YELLOW SHANKS.
TOTANUS FLAVIPES.

TOTANUS FLAVIPES.

(YELLOWSHANKS.)

Yellowshanks, Lath. Gen. Synops. iii. pt. 1, p. 152 (1785).

Scolopax flavipes, Gmel. Syst. Nat. i. p. 659 (1788).

Chorlito pardo mayor, Azara, Apunt. iii. p. 314 (1803).

Totanus natator, Vieill. Nouv. Dict. vi. p. 409 (1816).

Totanus flavipes (Gmel.), Vieill. tom. cit. p. 410 (1816).

Totanus fuscocapillus, Vieill. tom. cit. p. 400 (1816).

Totanus stagnatilis (nec Bechst.), Gay, Faun. Chil., Zool. i. p. 422 (1847).

Gambetta flavipes (Gmel.), Bonap. Compt. Rend. xliii. p. 597 (1856).

"*Totanus leucopyga*, Illig.," Gray, Hand-l. of B. iii. p. 45. no. 10274 (1871).

Totanus (*Gambetta*) *flavipes*, Gmel., Gray, tom. cit. p. 45. no. 10274 (1871).

Ægialodes flavipes (Gmel.), Heine & Reichenow, Nomencl. Mus. Hein. p. 327 (1890).

Figuræ notabiles.

Wils. Am. Orn. pl. lviii. fig. 5; Audub. B. Am. 8vo ed. pl. cccxlv.; Reichenb. Grall. tab. lxxv. fig. 582.

Ad. ptil. æst. pileo, nuchâ et collo postico nigro-fuscis, albo striatis: corpore suprâ nigro-fusco, albido et cinereo-cervino notato: supracaudalibus albis, nigro transfasciatis: remigibus nigro-fuscis, scapis fuscis extimâ exceptâ: rectricibus medianis saturatè cinereis nigricante transfasciatis, reliquis albis nigro-fasciatis: capitis lateribus, gulâ, gutture et pectore albis nigro-fusco striatis, his magis eodem colore guttatis: corpore reliquo subtùs albo, hypochondriis nigro-fasciatis: rostro viridi-nigro: pedibus flavis: iride fuscâ.

Ad. ptil. hiem. suprâ sordidior, nigro-fuscus vix albo guttatus, supracaudalibus magis albis: mento et gulâ ferè albis: gutture et pectore nigricante striatis et fusco-cinereo lavatis: corpore reliquo subtùs albo, hypochondriis indistinctè cinereo-fusco notatis.

Adult in summer (Koshkonong Lake, May 2nd). Crown, nape, and hind neck blackish brown, streaked with white; upper parts generally blackish brown, rather boldly marked and spotted with white and buffy grey; upper tail-coverts white, barred with blackish; quills blackish brown, the first primary with the shaft dull white, the remaining quills having dark shafts; median tail-feathers dark ashy grey, barred with blackish, the remaining rectrices white also barred with blackish; sides of the head, neck, and breast white streaked with blackish, the lower neck and breast with the streaks broader and larger; rest of the underparts white, the flanks barred with blackish: bill greenish black; legs yellow; iris dark brown. Total length about 10 inches, culmen 1·6, wing 6·2, tail 2·6, tarsus 2·0.

Adult in autumn (Washington, September 16th). Upper parts much darker than in the summer, the markings reduced to a few dull whitish spots; upper tail-coverts less barred, being nearly white; chin

and upper throat nearly white; lower throat and upper breast streaked with dull blackish and washed with greyish brown; rest of the underparts white, the flanks slightly marked with greyish brown.

Young (*vide* Ridgway). Resembles the adult in winter plumage, but the light markings on the upper parts are more or less tinged with pale brown or dull ochraceous.

THE Yellowshanks is another inhabitant of America which has found its way across the Atlantic, and has therefore to be included as a rare straggler, having been recorded from Greenland and having occurred at least twice in Great Britain: once near Misson, in Nottinghamshire, this specimen being now in the Leeds Museum, having formed part of the collection of the late Sir William Milner, who purchased it from the late Hugh Reid, a well-known bird-stuffer at Doncaster. The second specimen was shot by Mr. E. Vingoe on a salt-marsh near Marazion in Cornwall, on the 12th September, 1871. This species does not appear to have been met with on the continent of Europe, but it has occurred in Greenland. Mr. Möschler states (*J. f. O.* 1856, p. 335) that it was sent to him from there in 1854; and in 1867 I received, together with a lot of eggs, a few badly made, unlabelled, skins from Greenland, through Kammeraad Erichsen, among which was one of the present species, and Mr. Erichsen informed me that all the specimens were obtained by his collector near Egedesminde in North Greenland.

In America the present species is widely distributed, as it is found from Alaska and the Hudson Bay territory (where it breeds) down to Patagonia, where it has been obtained in the winter. Sir John Richardson (*Faun. Bor.-Am.* p. 390) speaks of it as being "a very common bird in the fur countries." Capt. Blakiston obtained it near Carlton, Mr. Murray records it from Hudson's Bay, and Mr. Ross as abundant on the Mackenzie (*Ibis*, 1863, p. 133). In Alaska, according to Mr. Turner (*Nat. Hist. Alaska*, p. 148), "it is only a straggler at Saint Michael's, and was seen only on two occasions on the beach in the early part of June. I obtained a specimen at Fort Yukon, where it is not common. On some parts of the Yukon River it is said to be common, but not so according to my observation.

"I saw a specimen of this Snipe at Nuchagak on Bristol Bay in the month of June 1878. It was running along the muddy edge of the river. I had only time to identify it as it flew, and that only before I got within distance to shoot it.

"It does not occur on the Aleutian Islands that I am aware of."

Mr. Nelson (*Cruise of 'Corwin,'* p. 89) speaks of it as being a rare accidental visitant to the coast of Bering Sea in Alaska, and writes (*Nat. Hist. Alaska*, p. 118) as follows:—"During the exploration of the Western Union Telegraph Expedition, specimens of the small Yellow-legs were taken at Sitka and Kadiak Island, on the south-eastern shore of the territory, and at Fort Yukon. Mr. Lockhart secured its eggs. Hartlaub records it in small flocks on Chilcat River. Dale found it in Nulato and the Yukon Mouth; and the middle of August, 1878, I shot a bird of the year at Saint Michael's as it was feeding on the border of a brackish pool. The natives were familiar with the bird, but told me it occurred only rarely.

"In the Upper Yukon Region, however, it is more or less common, and among the skins brought me by the fur-traders is a female taken May 3rd, at Fort Reliance, and another secured on the 7th of the same month. On the Lower Yukon it is not common, and is very rare along the shore of Bering Sea.

"Spring birds from the Upper Yukon have many black feathers with irregular whitish borders scattered over the back, mixed with the ordinary winter dress. The young bird from Saint Michael's has the same pattern of coloration as the adult, but the colors are dull. There is no record of this species from the Asiatic shore nor from the Arctic coast of Alaska."

According to Messrs. Baird, Brewer, and Ridgway (Water-Birds of N. America i. p. 274), "Mr. J. A. Allen found it in considerable numbers about the lagoons of Eastern Kansas in the earlier part of May, and afterwards in August; he also saw it at Lake Pass in Colorado, and a few were found in September in the valley of Great Salt Lake. It was not noticed by Mr. Ridgway in Utah or Nevada, but it has been found very abundant in August and September throughout Dakota and Montana, where it was invariably seen associating with the *melanoleuca*. Both species are there the most unsuspecting of the Waders, so that they may be approached without the slightest difficulty. Mr. L. Belding, in the winter of 1878-1879, procured a specimen on the coast of California. In the valley of the Mississippi this species is a regular migrant both in the spring and in the fall. It is much more abundant in its autumnal movement, and much more common than the *melanoleuca*, coming later and departing earlier than that species. None remain to breed near Lake Koshkonong, where in the fall they again become very abundant." It is, they add, very generally distributed throughout the United States, but it appears to be more abundant on the eastern side of the territory, and is a regular and common migrant on the Atlantic coast. I met with it on the coast of New Brunswick during migration. My friend, Mr. George A. Boardman, states that he observed it near Calais, Maine, in the spring and autumn, and it is recorded from almost all parts of the coast down to Florida, where, however, according to Mr. Scott, it was a rather rare migrant about Tarpon Springs, but he did not meet with it in the winter. I met with it in Texas and Mexico, but only shot one during the two months I was at Matamoras. At San Antonio, Texas, in the spring of 1864, I noticed them oftener than I did at Matamoras, and shot several during April and early in May and saw several on Galveston Island early in June. It winters in Mexico and Central and South America. Mr. O. Salvin (*Ibis*, 1859, p. 229) met with it at Dueñas, in Guatemala, in April. Mr. Barrows (*Auk*, 1884, p. 315) records it from the Lower Uruguay, and says that none were seen at Concepcion during May, June, and July, but they were numerous at Azul in January. Mr. Durnford also (*Ibis*, 1877, p. 199) records it from Buenos Ayres, where, curiously enough, he says it is resident, but in the winter receives a considerable accession to its numbers. It was, he adds, common at Baradero in April. He also (*Ibis*, 1877, p. 43) found it common in the Chuput valley, Patagonia, and adds (*Ibis*, 1878, p. 404) that it was seen occasionally on the Sengel. It occurs on passage on almost all the West India Islands. Messrs. A. & E. Newton met with it (*Ibis*, 1859, p. 257), but not plentifully, in spring and autumn on the island of St. Croix, but do not think that it remains in the island through the winter; Léotaud (*Ois. Trinidad*, p. 453) found it in Trinidad from August to October; Gosse records it from Jamaica; Gundlach from Cuba and Porto Rico, where it occurs in large flocks; Wedderburn from Bermuda; and Col. H. W. Feilden says (*Ibis*, 1889, p. 496) that in the island of Barbados the Yellowshanks "arrives in flocks about the 15th of July, though stragglers put in an earlier appearance. I shot an example on the 4th of July at Græme-Hall swamp. The passage lasts till the middle of September, only odd birds appearing after that date. The Yellowshanks is

the most numerous of the migratory Waders, and generally forms the chief feature in the bag of the Barbadian sportsman. The flocks do not, however, remain long on the island, but pass on after a few hours' stay."

I have only had an opportunity of observing this species during migration, when it was in small flocks frequenting the coast and the borders of lagoons or inland on the banks of rivers or in marshes.

As a rule, I did not find it very shy, but it is restless, and will when disturbed fly round, uttering its clear sharp whistle, thus putting any other birds that may be near on the alert. It feeds on worms, insects, and small marine animals, and gets very fat, being then excellent eating. In the breeding-season it is, according to Swainson, "seen either solitary or in pairs on the banks of every river, lake, and marsh up to the northern extremity of the continent. It is very impatient of any intrusion on its haunts, and often betrays the approach of the sportsman to the less vigilant of the feathered tribes by flying round his head, its legs hanging down and the wings drooping, and uttering its incessant though plaintive cries. Previous to its retreating southwards on the approach of winter, it collects in small flocks, and halts for a time on the shores of Hudson's Bay." It breeds in the extreme north of the American continent and throughout the fur countries; it also probably breeds as far south as Chicago, as Mr. Nelson obtained young birds, barely able to fly, there on the 1st July, 1874, and noticed several pairs during the breeding-season about the Calumet marshes.

Speaking of its breeding-habits, Messrs. Baird, Brewer, and Ridgway write (*l. c.*) as follows:—"Mr. Kennicott, who found it breeding near Fort Resolution, states that it arrives there in the spring among the first birds. He describes its nest as of the simplest kind, it being merely a depression without any lining at the foot of a small bush, in rather open ground, a rod from the edge of a marsh. Another nest was in an open place among sparse low bushes—a simple depression, but lined with a few leaves and small sticks. Mr. MacFarlane found the nest of this species, lined with decayed leaves, on the Lower Anderson River, and in some instances they were near the edge of a small lake. Others were taken at Fort Anderson, some as early as June 2nd. The nests were all mere depressions, with a very scanty lining. The usual number of eggs was four. In several instances the male bird was seen to perch on trees near the nest in the manner of the Common Snipe. Some were already hatched by the 19th of June.

"When the pair had young they were very noisy, going constantly before the intruder from tree to tree for several hundred yards beyond their nest. The young, even when just hatched, run and hide in the short grass, so as to make it difficult to find them, the parents in the meanwhile flying and screaming in the air above.

"The eggs of this species obtained by Mr. MacFarlane exhibit some variations in the shading of the ground and in their markings. No. 11397 Nat. Mus. average in measurement 1.68 inches in length and 1.12 in breadth. Their ground-color is a light drab, verging in some into a darker hue, marked with separate rounded blotches of lustre, of a light tint, and washed in a few instances with ground-color, giving the effect of a light ashy slate. No. 11388 S. I., the ground-color a dull deep rufous drab, the spots more numerous and confluent, giving to the eggs a very different effect from that usually presented."

I am indebted to the Smithsonian Institution at Washington for three eggs of this Wader, taken by Mr. R. R. MacFarlane near Anderson River Fort in July. Two of these eggs have the ground-colour dark clay-ochre, and are marked with a few underlying pale purplish-grey shell-blotches, and with black surface spots and blotches, which are larger and more numerous at the large end, and resemble eggs of *Totanus stagnatilis* in my collection, but are larger. The third egg is lighter in ground-colour, and is a miniature Greenshank's egg in general appearance. In size they vary from 1·75 by 1·15 inch to 1·63 by 1·11 inch. In the label from Mr. MacFarlane received with the two former eggs, it states that the nest was a mere depression in the soil lined with decayed leaves. The egg was figured for the first time, I believe, in 1867 (P. Z. S. 1867, pl. xv. fig. 5), and illustrations of six specimens are given in Mr. Poynting's excellent work on the eggs of the British Limicolæ.

The specimens figured are those described, and are in my own collection. That figured in the foreground is in summer plumage, and that in the background is in autumn dress.

In the preparation of the above article I have examined the following specimens:—

E Mus. H. E. Dresser.

a, ad. Near Egedesminde, N. Greenland, 1867 (*Erichsen*). *b, ad.* New Jersey, April (*J. Krider*). *c, ♀ ad.* Wisconsin, April 20th, 1871 (*Dr. T. M. Brewer*). *d, ♂.* Massachusetts, August 22nd, 1870 (*Dr. T. M. Brewer*). *e.* Washington, D.C., September 16th, 1861 (*Dr. Elliott Coues*). *f.* Koshkonong Lake, May 2nd, 1871 (*Dr. Brewer*).

E Mus. H. B. Tristram.

a, ad. Musquash, near St. John, New Brunswick, 1864 (*H. E. Dresser*).



J. G. Keulemans del. et lith.

ROYAL TERN.
STERNA MAXIMA.

Mintern Bros. imp.

STERNA MAXIMA.

(ROYAL TERN.)

- La Grande Hironnelle de Mer de Cayenne*, Buff. Hist. Nat. Ois. viii. p. 346 (1781).
Sterna maxima, Bodd. Tabl. des Pl. Enl. p. 58 (1783).
Cayenne Tern, Lath. Gen. Syn. iii. pt. 2, p. 352 (1785).
Sterna cayennensis, Gmel. Syst. Nat. i. p. 604 (1788).
Sterna cayana, Lath. Ind. Orn. p. 804 (1790).
Sterna galericulata, Licht. Verz. Doubl. p. 81 (1823).
Sterna erythrorhynchos, Wied, Beitr. Naturg. Bras. iv. p. 857 (1833).
Sterna cristata (nec Steph.), Swainson, B. of W. Afr. ii. p. 247, pl. xxx. (1837).
Thalasseus cayanus (Lath.), Bonap. Comp. List, p. 61 (1838).
Thalasseus cristatus (nec Steph.), Boie, Isis, 1844, p. 182.
Sylochelidon erythrorhynchos (Wied), Boie, tom. cit. p. 186.
Sylochelidon cayennensis (Gmel.), Boie, ut suprâ.
Sylochelidon galericulata (Licht.), Boie, ut suprâ.
Phaëtusa galericulata (Licht.), Gray, Gen. of B. iii. p. 660 (1846).
Sterna regia, Gambel, Proc. Acad. N. Sc. Philad. iv. p. 228 (1848).
Thalasseus regius, id. Journ. Philad. Acad. i. p. 228 (1849).
Phaëtusa regia (Gambel), Bonap. Compt. Rend. xlii. p. 772 (1856).
Sterna bergii (nec Licht.), Hartl. Orn. W.-Afr. p. 254 (1857).
Sterna elegans (nec Gambel), Léot. Ois. Trinidad, p. 542 (1866).
Thalasseus galericulatus (Licht.), Blasius, J. f. O. 1866, p. 82.
Thalasseus cayennensis (Gmel.), Gray, Hand-l. of B. iii. p. 120. no. 11051 (1871).
Sterna (*Thalasseus*) *regia* (Gambel), Coues, B. of N.-W. p. 669 (1874).
Sterna bergii (nec Licht.), Irby, Orn. Str. Gibr. p. 209 (1875).
Thalasseus maximus (Bodd.), Lawr. Bull. U. S. Nat. Mus. iv. p. 51 (1876).
“*Sterna flavirostris*, Natterer MS.” Giebel, Thes. Orn. iii. p. 531 (1877).
Phaëtusa maxima (Bodd.), Heine & Reichenow, Nomencl. Mus. Hein. p. 355 (1890).

Figurae notabiles.

D'Aubenton, Pl. Enl. 988; Aububon, B. Am. pl. cclxxiii.; id. 8vo ed. pl. cccxxix.; Reichenb. Natator. tab. xix. fig. 266, tab. xxii. fig. 823; Swainson, B. of W. Afr. pl. xxx.

Ad. ptil. æst. fronte, pileo et nuchâ nigris, nuchæ plumis elongatis et attenuatis: collo et corpore subtus albis: stragulo pallidè cano, marginibus alarum albis: uropygio pallidè cano: remigibus in pogonio externo saturatè griseis, scapis lineâ nigrâ in pogonio interno marginatis et nigricanti-griseo apicatis: secundariis albo marginatis: caudâ forficatâ, albâ: rostro aurantiaco-rubro: pedibus nigris: iride fuscâ.

Ad. ptil. hiem. fronte et pileo antico albis vix nigro notatis: spatio parvo ad basin rostri sordidè cinereo: rostro pallidiore.

Juv. adulto in ptil. hiem. similis, sed fronte albâ: pileo et nuchâ nigris, albo guttatis: tectricibus alarum saturatè cinereo notatis et corpore suprâ nigro guttato: caudâ versus apicem saturatè cinereâ et albido apicatâ: rostro et pedibus sordidè flavidis.

Adult Male (S. Carolina, April). Crown and nape black, the feathers on the nape elongated and pointed; mantle pearl-grey; neck white, the edge of the wing from the carpus white; rump pale pearl-grey; quills with the outer webs dark grey, the inner web with a broad line near the shaft and the terminal portion blackish grey; secondaries edged with white; tail white, moderately forked; underparts white: bill orange-red; tarsi black; iris brown. Total length about 20 inches, culmen 2·8, wing 14·3, tail 6·2 (the outermost rectrices extending 2·0 beyond the middle ones), tarsus 1·35.

Adult in winter (Chiapam, Guatemala). Differs in having the fore part of the crown and forehead white, slightly mottled with black, a small space at the base of the bill dull grey: bill paler than in the summer.

Young (Jamaica). Similar to the adult in winter, but the forehead is white, the crown and nape black, mottled with white, the wing-coverts marked with dark grey, and the upper parts generally spotted with blackish; terminal portion of the tail dark grey, the feathers tipped with white: bill and legs dull yellow.

THE present species inhabits North America from Long Island on the west coast down to Southern Brazil, and possibly even to Paraná in South America, and on the west coast from California down to Peru, and in the winter season it is found on the west coast of Africa from the Straits of Gibraltar to Angola. Col. Irby (Orn. Str. Gibr. p. 209) recorded it as having been obtained at Tangier by M. Favier; and Mr. J. L. Dalglish (Auk, 1884, p. 97) received two, which were shot with thirteen others out of a flock of about thirty in the Bay of Tangier on the 10th December, 1883. Messrs. Shelley and Buckley (Ibis, 1872, p. 293) say that it is the commonest Tern at Accra and Cape Coast Castle. Hartlaub (*l. c.*) records it from Gambia and Ashanti, Reichenow (J. f. O. 1877, p. 10) from the Loango coast, and Bocage from Loanda and Angola. On the American continent, according to Messrs. Baird, Brewer, and Ridgway (Water-B. of N. America, ii. p. 285):—"This handsome Tern, so far as we now know, has a somewhat restricted residence. Breeding in small numbers on the Atlantic coast as far north as Chesapeake Bay, it becomes more common in Florida, and is probably found more or less abundant along the entire coast of the Gulf of Mexico, as well as on the Pacific coast of Central America, Mexico, and Southern California. . . .

"According to Dr. Cooper, this Tern wanders in midsummer along the Pacific coast as far north as the Columbia River. On the Atlantic it occasionally visits Long Island and, more rarely, the islands of South-eastern Massachusetts, where a pair was obtained in the summer of 1874 by Mr. C. J. Maynard and Mr. William Brewster. A few breed as far north as Southern Maryland, on its eastern shore. Late in July 1879, Messrs. Ridgway and Henshaw met with this Tern in considerable numbers at Cobb's Island, on the eastern shore of Virginia. It was in company with *S. caspia*; and the two species were confounded by the residents of the island under the common name of 'Gannet-strikers' or 'Gannets.' This species appeared to be the

much more numerous of the two. Mr. Ridgway visited the same locality the following season (July 1880), and found a colony, numbering several thousands, breeding near the northern end of the island, their eggs covering thickly an area of less than an acre in extent."

Mr. Scott states (Auk, 1888, p. 374) that in Florida this Tern is "A resident species, more abundant in winter, and breeds commonly. On the low sand keys at the mouth of Tampa Bay, the breeding-season begins about the middle of May, and is at its highest three weeks later." Mr. Brewster records it (Auk, 1882, p. 225) as breeding in considerable numbers on the islands of Galveston Bay in Texas, but I did not see it there, though I found it numerous at the mouth of the Rio Grande in the summer; and both Dr. Merrill and Mr. Sennett met with it in the same locality. It is said to be common on the coast of Mexico. Lawrence records it from Mazatlan; Boucard (P. Z. S. 1883, p. 462) as very abundant on the coast of Yucatan; Mr. Salvin obtained it in British Honduras and Guatemala; Zeledon records it from Costa Rica; there are specimens in the British Museum from Rio de Janeiro and from Santa Catharina in S. Brazil; and Mr. Hudson records it from Argentina. On the west coast of South America it is recorded by Taczanowski from Peru, and there are specimens in the British Museum from Payta in that country, and it is stated to occur along the coast up to California. It is also found in the West Indies and on the islands off the coast of South America. Mr. Hartert (Ibis, 1893, p. 309) saw it several times on the islands of Aruba, Curaçao, and Bonaire, where it was not common and somewhat shy. Léotaud (Ois. Trinid. p. 537) speaks of it as being common in Trinidad, and he believes that it only leaves the island during the breeding-season; Messrs. A. & E. Newton record it from St. Croix, Mr. E. C. Taylor from Margarita Island, Mr. E. B. Cory obtained it in the Virgin Islands, Gosse records it from Jamaica, Dr. Gundlach from Cuba, and Mr. Cory from the Bahamas.

I have never observed this Tern, excepting at the mouth of the Rio Grande, between Texas and Mexico, where a large number were seen, and, so far as I could perceive, they closely resembled our Caspian Tern in general habits. Messrs. Baird, Brewer, and Ridgway write (*l. c.*) that "This bird is usually observed flying in straight lines along the shores, or up and down the bays, occasionally uttering a squealing cry, and often darting directly down into the water as if shot, but generally emerging with a fish, which is immediately swallowed, or, if too large, divided by its sharp cutting bill. This Tern is generally a very shy and suspicious bird; but if wounded will strike boldly with its bill—being much more pugnacious than are the tamer Gulls. Though it usually fishes singly, yet it will associate in large flocks on its resting place; and when one of these birds is wounded, all its companions will fly anxiously around in such proximity as to be easily shot.

"In the autumn months Mr. Gosse used frequently to see individuals of this species engaged in fishing on a reef about a quarter of a mile from the Jamaican shore. The birds were solitary in their habits, and did not associate with others of their kind. They would fly rapidly around in large circles high above the water, flapping their wings rapidly and without intermission; then all at once they would descend perpendicularly, at the same time turning the body in a jerky irregular manner. On touching the water the birds would disappear with a sudden splash, but reappear a moment later, struggling as if it were not an easy thing to rise again; then all at once they would utter plaintive cries, as if alarmed, and fly off along the coast; but would

return again and calmly resume their wonted occupation. When satisfied, this bird betakes itself to some buoy marking a sunken fishpot, and there reposes. The fishermen on returning to their pots at early day often find it sitting on their buoys, so fearless that the canoe will almost touch it before it will fly. Though webfooted, it is rarely known to swim; and when wounded, struggles in the water as a land bird would do. In Florida, Audubon found this Tern surprisingly shy. At first the birds were in great flocks, resorting at low water to a large flat sandbar, where they reposed awaiting the return of the tide. For several days he was unable to procure a specimen, and only succeeded by employing several boats to join in the pursuit. After one had been wounded there was no difficulty in procuring others. He found this Tern on the St. John's River, at a distance of several miles from the sea. When disturbed at its breeding-place, it manifests the noisy displeasure so characteristic of its tribe, uttering loud cries that may be heard to the distance of half a mile or more.

"On the 11th of May, 1832, Audubon saw it breeding on one of the Tortugas. The eggs had been dropped on the bare sand a few yards from highwater mark, and during the heat of the day none of the birds paid much attention to them. The number of eggs was usually two, but sometimes only one."

Eggs in my collection, taken by my friend the late Dr. A. L. Heermann on the Florida Keys, are buffy white, with underlying purplish-grey shell-spots and blackish-brown surface-spots, and are very much paler and more sparingly marked than those of *Sterna caspia*. In size they measure 2.59 by 1.71 inch. Messrs. Baird, Brewer, and Ridgway remark that the eggs are remarkably uniform in their general characteristics, and they describe them as being pale yellowish in ground-colour, spotted with dark umber and faint purple, and measuring 2.75 by 1.80 inch.

The adult in summer plumage figured and described is a specimen for the loan of which I am indebted to Mr. Howard Saunders, and the other specimens described and figured are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ad. Chiapam, Guatemala, winter (*O. Salvin*). *b, juv.* Jamaica (*W. T. March*).

E Mus. J. J. Dalglish.

a, ad. Winter, Tangier.

E Mus. Rothschild.

a, ♂ ad. Georgia, May 15th, 1888 (*Ridgway*). *b, ad.* September 7th; *c, ad.* September 10th, 1888, Tangier (*Olcese*).



J. G. Keuleman: lith.

Hanhart: inv.

BONAPARTE'S GULL.
LARUS PHILADELPHIA.

LARUS PHILADELPHIA.

(BONAPARTE'S GULL.)

- Sterna philadelphia*, Ord, in Guthrie's Geogr. 2nd Amer. ed. ii. p. 319 (1815).
Larus minutus (nec Pall.), Sabine, App. Frankl. Polar Sea, p. 696 (1823).
Larus capistratus (nec Temm.), Bonap. Spec. Comp. p. 69 (1827).
? *Larus melanorhynchus*, Temm. Pl. Col. livr. 85, pl. 504 (1830).
Larus bonapartii, Swains. Faun. Bor.-Am. ii. p. 425, pl. 72 (1831).
Xema bonapartii (Swains.), Bp. Comp. List, p. 62 (1838).
Gavia bonapartii (Swains.), Macgill. Brit. B. v. p. 610 (1852).
Chroicocephalus bonapartii (Swains.), Bruch, J. f. O. 1853, p. 105.
" *Chroicocephalus subulirostris*, Bp.," Bruch, ut suprâ.
Gavia (*Melagavia*) *bonapartii* (Swains.), Bonap. Naumannia, 1854, p. 213.
Gavia (*Melagavia*) *subulirostris*, id. ut suprâ.
Chroicocephalus philadelphia (Ord), Baird, Cass., & Lawr. B. of N. Am. p. 852 (1858).
Larus philadelphia (Ord), G. R. Gray, Cat. Brit. B. p. 235 (1863).
Larus philadelphicus, Turnbull, B. of E. Pennsylvania, p. 48 (1869).
Larus (*Chroicocephalus*) *philadelphia* (Ord), Coues, B. of N.-W. p. 655 (1874).
Chroicocephalus philadelphia (Ord), Coues, Proc. Phil. Acad. p. 41 (1871).
Larus philadelphicæ (Ord), Saunders, P. Z. S. 1878, p. 206.

Figuræ notabiles.

Temm. Pl. Col. tab. 504; Swains. & Richards. Faun. Bor.-Amer. pl. lxxii.; Audubon, Orn. Biogr. pl. cccxxiv.; id. B. of N. Am. 8vo ed. pl. cccxlii.; Gould, B. of Great Britain, v. pl. lxxv.

Ad. ptil. æst. capite et collo plumbescenti-nigris: oculis, parte anticâ exceptâ, albo marginatis: collo imo albo: stragulo saturatè cano: supracaudalibus, caudâ et corpore subtùs albis: remige primâ in pogonio externo et ad apicem nigrâ, in parte reliquâ albâ, secundâ ad apicem nigrâ, tertiâ et quartâ albis nigro subterminatis, albo apicatis et in pogonio interno canis, quintâ et sextâ canis nigro subterminatis, septimâ et octavâ canis in pogonio interno versus apicem fumoso notatis: marginibus alarum et subalaribus albis: rostro nigro: iride fuscâ: pedibus aurantiaco-rubris.

Ad. ptil. hiem. similis, sed capite et collo albis cinereo notatis, regione paroticâ plagâ cinereâ notatâ: pedibus incarnatis.

Juv. pileo fusco-cinereo: regione paroticâ saturatè cinereâ: corpore suprâ cervino-fusco notato et tectricibus alarum cervino-fusco et fusco notatis: caudâ albâ, nigro terminatâ et cervino-albo angustè apicatâ.

Adult Male (Hamilton, Ontario, April 22nd). Head and neck dark plumbeous black, a narrow white ring

enclosing the eye, excepting the front portion; lower neck white; mantle dark pearl or French grey; upper tail-coverts, tail, and underparts pure white; first primary black on the outer web and at the tip, otherwise white; second white, but black at the tip and a little up the inner web; the third and fourth white with broad subterminal black bands and white tips, and pearl-grey on the inner webs; the rest up to the seventh grey with black subterminal bars, the seventh and eighth grey with a small dark margin at the end of the inner web; edge of the wing and under wing-coverts white: bill deep black; iris dark brown; legs and feet orange-red. Total length about 13·5 inches, culmen 1·6, wing 10·3, tail 4·0, tarsus 1·38.

Adult Female (Hamilton, Ontario). Similar to the male.

Adult in winter (Pennsylvania). Similar, but the head and neck white slightly marked with grey, and a grey spot on the auricular region; legs and feet flesh-colour.

Young (Moose Factory, August 24th). Crown brownish grey; a dark grey patch covering the auricular region; upper parts generally marked with buffy brown, and on the wings with buffy brown and darker brown; tail white, with a broad terminal black band and narrowly tipped with buffy white; otherwise like the adult in winter.

BONAPARTE'S Gull is a Nearctic bird inhabiting North America from the northern portion of the British possessions down as far south as Bermuda in the winter. It is but a rare straggler to Europe, and has up to the present time been obtained only in the British Isles and on Heligoland. I was for long doubtful as to whether it could properly be included in the European list, but have since convinced myself that it has undoubtedly been obtained on several occasions. The first record of its occurrence is that by Thompson (Ann. & Mag. Nat. Hist. 1848, p. 192, and B. of Irel. iii. p. 317), who writes as follows:—"A specimen of this beautiful little gull, the first known to have visited Europe, was killed at the tidal portion of the river Lagan, between Ormeau Bridge and the Botanic Garden, about a mile above the lowest bridge at the town of Belfast, on the 1st February 1848. It was flying singly. The person who shot the bird, attracted by its pretty appearance merely, left it to be preserved with a taxidermist, who on receipt of any birds either rare or unknown to him kindly brings them for my inspection." Another specimen, obtained in April 1850, on Loch Lomond, by Sir George H. Leith-Buchanan (Zool. pp. 3117-3118), was examined and identified by Mr. Howard Saunders (Yarr. Brit. B. ed. 4, vol. iii. p. 585), who remarks that the other two recorded occurrences in Ireland, one on the 14th February, 1855, about seventeen miles north of Dublin (Zool. p. 4762), and the second in Dublin Bay in July 1864 (Zool. s. s. p. 306), are less thoroughly authenticated; and I quite agree with him that it is, to say the least of it, rather remarkable that this Gull should visit Ireland in the month of July. The fourth recorded occurrence is that of one shot in Falmouth Harbour on the 4th January, 1865 (B. of Cornwall, p. 168), and a second example was shot on the 10th of the same month near Penryn. A sixth specimen was identified by Mr. Cecil Smith while looking through the collection of Mr. F. Persehouse, of Torquay; and Mr. Persehouse informed him that he shot it at St. Leonard's-on-Sea, Sussex, at the west end of the promenade, early in November 1870. It was with a number of Black-headed and Kittiwake Gulls, and he at first mistook it for *Larus minutus*.

The only instance of its appearance elsewhere in Europe is the single occurrence on Heligoland, recorded by Gätke (*Vogelwarte Helgoland*, p. 577), who states that he procured one during the severe winter of 1845.

In North America this Gull is widely distributed, and common in many parts of British North America and in the Northern United States.

Sir John Richardson met with it on Great Bear Lake, and found it breeding on Bear Lake River; Mr. Bernard Ross obtained it on the Mackenzie River, and Capt. Blakiston (*Ibis*, 1863, p. 153) found it in great numbers at the mouth of Hayes River on the west coast of Hudson's Bay. On the west coasts of the continent it does not appear to be so common as on the east side. According to Mr. E. W. Nelson (*Cruise of R.S. 'Corwin'*, p. 108) it "is a very rare bird along the Alaskan coast of Bering Sea, being found there during the migrations merely as a straggler from its breeding grounds in the interior. There is no record of either this or *Larus brachyrhynchus* from any of the Bering Sea Islands, but the latter is far less numerous and widely spread on the shores of this sea than the former. I found Bonaparte's Gull numerous only in one instance in the vicinity of St. Michael's. This was towards the end of September 1880, when for a few days they were abundant along the canal which separates St. Michael's Island from the mainland. There is no record of its presence along the shore of the Arctic, although it may possibly occur at the head of Kotzebue Sound." Mr. Turner (*Nat. Hist. Alaska*, p. 126) only met with it at the mouth of the Kuskokvim River on the 17th June. Dr. Cooper and Dr. Suckley both speak of it as being common at Puget Sound at all seasons of the year; and Messrs. Baird, Brewer, and Ridgway say (*Water-B. of N. Am.* ii. p. 262) that they appear about San Francisco only from September to May, and do not seem to migrate as far south as San Diego, although Dr. Cooper met with some at San Diego late in May in immature dress. Henshaw (*Auk*, 1885, p. 232) speaks of it as being not uncommon in San Diego Bay in December, and he saw it on the coast further north in November; and Evermann (*Auk*, 1886, p. 89) says that it is common in the spring and fall in Ventura county, California, and is seen there occasionally in the winter. According to Professor Kumlein it is the most common Gull of Southern Wisconsin, arriving in April, and in some summers immature birds may be seen throughout the season, but no old ones are met with in the summer. It has been obtained in the autumn as late as the 7th November. On the east coast I observed it on several occasions near Point Lepreau on the coast of New Brunswick, and my friend Mr. George A. Boardman records it as common in the autumn and winter at Calais, Maine. Mr. Ridgway (*Water-B. of N. America*, ii. p. 262) says: "In my visits to Eastport, the Bay of Fundy and its islands, I have noticed them in large numbers in the months of June and July. I could obtain, however, no evidence in any quarter of their nesting in that vicinity. If they do breed there it has entirely escaped the notice of those who live in that region. The Gulls were all in flocks, and mostly in mature plumage, but all appeared to be unmated. I found them on the water at all hours of the day and night, and, as they were very rarely molested, they were exceedingly tame and unsuspicious."

According to Mr. Merriam (*B. of Connecticut*, p. 132) this Gull "Is tolerably common in fall. Captain Brooks writes me that they are 'quite common about Faulkner's Island, Conn., in October and November,' and that he occasionally sees them 'with Terns at Goose Island, Conn., in summer.' Linsley states that he 'obtained an individual of this beautiful species of Gull,

August 1st, 1842' (p. 271). I saw the remains of one that had been killed, in November 1875, near Newhaven. Specimens of it are also in the collection of Mr. W. Coe and J. H. Sage of Portland, Conn.; and Mr. Wm. F. Lane sends me a specimen from Wallingford, Conn., stating that eight were seen there in the fall of 1874." It is recorded from various parts of the eastern coast, and also in the interior of the United States down as far south at least as Florida, where, however, Mr. Scott writes (*Auk*, 1888, p. 374) that "this species is not common on the gulf coast of Florida, so far as I am aware. I took a single individual at Panassoffkee Lake in Sumpter county in the winter of 1875-76, and found a few at the mouth of the Withlacooche River in December and January 1879-80. I have no record of it in the immediate vicinity of Tarpon Springs, and the only record south of that point is of a single bird, apparently immature, taken at John's Pass, Hillsboro' county, December 1886." Whether it occurs further south than Florida I cannot say; but Messrs. Baird, Brewer, and Ridgway state that "it winters in the southern portions of the United States on both shores, and also to a certain extent—not well ascertained—in Mexico and Central America. It is also stated to have occurred in the Bahamas; but Mr. Cory points out (*Auk*, 1888, p. 76) that though it is claimed to have been seen at Long Island, Bahamas, there is no actual record of the capture of this Gull in the West Indies.

I have not seen this Gull excepting on the shores of the Bay of Fundy in New Brunswick, where, on several occasions during the autumn, I saw small flocks fishing off the shore and near some nearly submerged rocks at some distance outside. On the wing it is very graceful, and its flight reminded me of that of a Tern. They were engaged in fishing and were not particularly shy. I never saw any there in the summer, though they are said to occur in the Bay at that season, but I do not believe that any have been found breeding there. Audubon found in the stomachs of specimens which he examined coleopterous insects, shrimps, and small fish; and Dr. Cooper describes the call of this Gull as consisting of sharp but rather faint squeaks. It breeds in the northern districts of the United States and British North America as far south as Manitoba in the British possessions, where, according to Mr. Macoun, it breeds on all the large lakes of the prairie region, and Mr. Donald Gunn found it nesting in the marshes of Swan Creek, not far from Shoal Lake. It has also been found breeding by American collectors at Fort Resolution on the Yukon, Fort Simpson, Big Island, Fort Rae, Peel's River Fort, Fort Good Hope, and Fort Anderson on the Lower Anderson River. Sir J. Richardson writes (*Journ. of a Boat Voyage, &c.* i. p. 200) respecting the present species as follows:—"One of the birds which we traced up to its breeding places on Bear Lake River, but not to the sea coast, is the pretty little Bonapartean Gull (*Xema bonapartii*). This arrives very early in the season, before the ground is denuded of snow, and seeks its food in the first pools of water which form on the borders of Great Bear Lake, and wherein it finds multitudes of minute crustacean animals and larvæ of insects. It flies in flocks and builds its nests in a colony resembling a rookery, seven or eight on a tree; the nests being framed of sticks laid flatly. Its voice and mode of flying are like those of a Tern, and, like that bird, it rushes fiercely at the head of anyone who intrudes on its haunts, screaming loudly. It has, moreover, the strange practice, considering the form of its feet, of perching on posts and trees; and it may be often seen standing gracefully on the summit of a small spruce fir." Mr. MacFarlane found this species

breeding in the wooded regions in the neighbourhood of Fort Anderson. All the nests, he says (Proc. U. S. Nat. Mus. xiv. p. 418), of which thirty were taken with eggs between the 10th June and 10th July, were placed either in bushes or on trees at various heights from the ground—none less than four feet, and others from fifteen to twenty feet, and with one exception (which nest was composed of down and velvety leaves held together by some stringy turf) they were made of small sticks and twigs lined with hay &c. He mentions meeting with this Gull in that season much more frequently on his line of travel than on any other occasion, while it was much later than usual in nesting.

According to Messrs. Baird, Brewer, and Ridgway, "Mr. Kennicott found this Gull nesting in the neighbourhood of Fort Yukon, and describes the nest as being of about the size of that of *Zenaidura carolinensis*, but the cavity is rather deeper. It was placed on the side branch of a green spruce, several feet from the trunk, and about twenty feet from the ground, near a lake. Mr. Kennicott saw several nests near this one, all alike and in similar positions, except that some were not over ten feet from the ground and were on smaller trees: but all were on spruce trees. One nest which he examined contained three young birds of a dirty yellowish color, thickly spotted with dark brown. He saw between twenty-five and fifty Gulls about that breeding-place, but he found only a few of their nests. These birds were said by the Indians always to breed in similar situations.

"In regard to twenty-two other nests described by Mr. MacFarlane, we gather that the usual maximum number of eggs in a nest is three—very rarely four; that all are placed in elevated situations, on high stumps, or bushes, or trees; that the nests are made of sticks, and lined with hay and other soft substances; and that the parents are fearless when they have young, flying about in close proximity and screaming vehemently. The nests were found with eggs from June 10 to the 10th of July; and in some cases mosses and lichens from the pines and spruces had been largely used in their construction. They were usually placed flat on horizontal branches at some distance from the trunk. The eggs procured by Mr. MacFarlane vary in length from 1.90 to 2.05 inches, and in breadth from 1.35 to 1.45. Their ground-color is a greyish olive, passing into a greenish tint, while the markings consist of small spots of clove-brown, and are chiefly gathered around the larger end of the egg."

The egg of this Gull was first described and figured by Professor Newton in 1871 (P. Z. S. 1871, p. 57, pl. iv. fig. 6) from a specimen obtained by Mr. MacFarlane at Anderson-River Fort.

I am indebted to the late Professor Spencer F. Baird for two eggs of this Gull, taken by MacFarlane on the Anderson River, Arctic America, which are pale olivaceous green, one with the ground-colour olivaceous brown, and are marked and spotted with purplish-grey underlying shell-markings and blackish-brown surface-spots; both are more marked at the larger end, and the paler egg has a wreath-like circle of irregular dashes and blotches round the larger end. In size they measure 1.96 by 1.32 inch and 1.90 by 1.42 respectively.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. II. E. Dresser.

a, *ad.* Summer, Washington (*M. Walker*). *b*, *c*, *ad.* Summer; *d*, *ad.* Winter, Pennsylvania (*J. Krider*).
e, ♂ *ad.* April 22nd, 1893; *f*, ♀ *ad.* April 2nd, Hamilton, Ontario (*K. C. M'Iwraith*). *g*, *juv.* Fort
Barton (*J. Pearsall*). *h*, *juv.* New Hampshire, December 4th, 1860 (*Dr. Elliott Cones*). *i*, *juv.* Moose
Factory, Hudson's Bay, August 24th, 1860 (*C. Drexler*).

Genus OCEANODROMA.

Procellaria apud Gmelin (1788).

Hydrobates apud Boie, Isis, 1822, p. 562.

Pachyptila apud Steph. in Shaw's Gen. Zool. xiii. p. 255 (1826).

Thalassidroma apud Audub. Orn. Biogr. iii. p. 434 (1835).

Oceanodroma, Reichenb. Natürl. Syst. Vögel, p. iv. Type *Procellaria furcata* (1852).

Cymochorea, Coues, Proc. Acad. Phil. 1864, p. 75. Type *Oceanodroma leucorrhoa*.

THE present genus comprises the Storm-Petrels which have the tail forked, and includes twelve species, only two of which occur within the Palæarctic area, viz. *O. leucorrhoa* and *O. cryptoleucura*. The range of the genus extends over the seas chiefly of the northern hemisphere, southward to the coast of Peru and the island of St. Helena.

In habits they agree closely with *Procellaria*, being chiefly pelagic, and seldom seen on or close to land, excepting during the nesting-season, when they frequent islands and deposit a single egg either in a burrow in the soil or amongst stones.

Oceanodroma furcata, which inhabits the North Pacific Ocean, is the type of the genus, but its Palæarctic representative, *Oceanodroma leucorrhoa*, has the bill rather stout, longer than the head, compressed, much decurved at the tip, and acute; nostrils open in front by two approximated tubes; wings long and narrow, the first primary rather longer than the fourth, the second longest; tail long, rather deeply forked; legs slender; hind toe very small, anterior toes long, slender; interdigital membrane emarginate; claws curved, compressed, moderately acute.

In the 'Birds of Europe' I included *O. leucorrhoa* in the genus *Procellaria*, but have since found that the Fork-tailed Petrels should be separated specifically.



Minton Bros. imp.

RIDGWAY'S PETREL.
OCEANODROMA CRYPTOLEUCURA.

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W. G. Anderson del et lith.

OCEANODROMA CRYPTOLEUCURA.

(RIDGWAY'S PETREL.)

Thalassidroma —, Dole, Proc. Bost. Soc. Nat. Hist. xii. p. 308, Extr. p. 15 (1869).

Procellaria, sp.?, Melliss, Ibis, 1870, p. 105.

Cymochorea cryptoleucura, Ridgw. Proc. U. S. Nat. Mus. iv. p. 337 (1882).

Oceanodroma cryptoleucura (Ridgw.), Stejn. Proc. U. S. Nat. Mus. ix. p. 78 (1887).

Figura unica.

Wilson, Aves Hawaiienses, part iv.

Ad. nigricanti-fuscus, vix schistaceo tinctus: remigibus nigricantibus, secundariis intimis tectricibusque alarum grisescenti-fuscis, apicem versus griseo-albidis: supracaudalibus nigris, conspicuè nigro terminatis: caudâ inconspicuè furcatâ, rectricibus (medianis exceptis) ad basin albis: rostro et pedibus nigris: iride fuscâ.

Pull. ubique lanugine indutus, saturatè schistaceo-fuliginosus.

Adult Male (Porto Santo, June 12th). Resembles Leach's Petrel, but is rather browner in tone of colour; tail less deeply forked, white at the base for about one quarter of its length, except the middle rectrices, which are black; upper tail-coverts white, broadly tipped with black. Total length about 7 inches, culmen 0·85, wing 6·0, tail 2·8, the central rectrices 0·2 shorter than the outer ones, tarsus 0·85.

Adult Female (Ilkeo-chão, June 20th). Resembles the male. Culmen 0·85 inch, wing 6·1, tail 3·0, the central rectrices 0·22 shorter than the lateral ones, tarsus 0·9.

Nestling (Desertas, September 20th). The wing and tail-feathers are well grown and similar to those of the adult, but shorter; the white bases of the lateral tail-feathers are very fully developed; rest of the body covered with slaty blackish down.

THE present species was first described in 1882 by Mr. Ridgway from specimens obtained in Hawaii by Mr. Knudsen, and Mr. Scott Wilson received specimens procured by Mr. Francis Gay on the island of Nūhau. It has also, according to Mr. Salvin, been obtained on the Galapagos Islands. Quite recently it has been found to inhabit the Atlantic as far south as St. Helena, whence there are specimens in the British Museum; and it has strayed, at least on one occasion, as far as England, a specimen in the collection of Mr. Boyd Alexander having been picked up dead on the beach at Littlestone, in Kent, on the 5th of December, 1895. It is very possible that it may have occurred oftener on our shores and have been mistaken for *O. leucorrhoa*; and it would be well if those collectors who possess specimens, determined as being Fork-tailed Petrels from the coasts of Great Britain, were to carefully examine these birds and make sure that they are Fork-tailed Petrels and not *O. cryptoleucura*.

This Petrel has been found to inhabit the seas about Madeira, where it was mistaken for *O. leucorrhoa*. Messrs. Baring and Ogilvie Grant found it breeding quite common on the Salvages; and Padre Schmitz, of Funchal, obtained its eggs on Porto Santo and the Desertas. Respecting its occurrence on the Salvages, Mr. Ogilvie Grant writes (*Ibis*, 1896, p. 53) as follows:—"Almost more interesting than the white-breasted species was the square-tailed white-rumped Petrel, of which we obtained but a single example, caught at night by our men on Great Salvage, though we saw several flying over the neighbouring seas from the deck of our steam-tug. This bird had not yet come to shore to breed, and the only egg we obtained was taken on Lime Island, Porto Santo, in the month of June. It had always been previously supposed that the only small white-rumped Petrel with black webs to the feet met with in these seas was Leach's Fork-tailed Petrel (*O. leucorrhoa*). That this bird also occurs there is certain, for we have seen a specimen obtained at the Canaries by Mr. Meade-Waldo, but it would appear to be merely a straggler so far south, and certainly the square-tailed species is the bird that has generally been mistaken for it. . . . According to our Lanzarote pilot, this species breeds commonly on the Little Piton, and it was with great regret that we had to leave the Salvages without visiting this little island. In propitious weather it is just possible to effect a landing on its dangerous rocks, and it was only the fear of missing our steamer at Las Palmas that prevented our making the attempt, for on our second visit to the Great Piton our pilot told us the sea and wind were fairly favourable."

I am indebted to Padre Schmitz for several eggs of this species taken on Porto Santo in June, some of which are pure white, and others with a faint wreath of small red spots round the larger end. In size they vary from 1.18 by 0.95 inch to 1.33 by 1.02 inch.

The specimens figured and described are in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Porto Santo, June 12th, 1895; *b*, ♀ *ad.* Ilkeo-chão, June 20th, 1895; *c*, *pull.* Desertas, September 20th, 1895 (*E. Schmitz*).

Genus PELAGODROMA.

Pelagodroma, Reichenb. Natürl. Syst. Vögel, p. iv. Type *Procellaria marina* (1852).

THIS genus contains only one species, full particulars of the range of which are given in the following pages.

Pelagodroma marina has the bill as in *Procellaria*; wings long, but rather broader than in that genus, the first primary considerably shorter than the third, the third and fourth longest; secondaries ten in number; tail slightly forked; legs long, the tarsus anteriorly non-scutellate; toes long; claws wide and flattened; hind toe obsolete.



J & Kaulenans hih

FRIGATE PETREL,
PELAGODROMA MARINA.

Mintem Bros. imp

PELAGODROMA MARINA.

(FRIGATE PETREL.)

- Frigate Petrel*, Latham, Gen. Syn. iii. pt. 2, p. 410 (1785).
Procellaria marina, id. Ind. Orn. ii. p. 826 (1790).
Pachyptila marina (Lath.), Steph. in Shaw's Gen. Zool. xiii. part 1, p. 253 (1825).
Oceanites marina (Lath.), Keyserl. & Blas. Wirbelth. Eur. p. xciii (1840).
Thalassidroma marina (Lath.), Gray, Gen. of B. iii. p. 648 (1844).
Pelagodroma marina (Lath.), Reichenb. Av. Syst. Nat. p. iv (1852).
Thalassidroma hypoleuca, Moquin-Tandon, in Webb & Berth. Orn. Canar. p. 45 (1836-44).
Pelagodroma fregata (nec Linn.), Bonap. Consp. Gen. Av. ii. p. 198 (1856).
Procellaria fregata (nec Linn.), Schlegel, Mus. Pays-Bas, *Procell.* p. 5 (1863).
Thalassidroma fregata (nec Linn.), Buller, B. of N. Zeal. p. 321 (1873).
Procellaria æquorea, Solander, fide Salvin, in Rowley's Orn. Misc. i. p. 238 (1876).

Figuræ notabiles.

Vieillot, Gal. Ois. ii. pl. ccxcii.; Gould, B. of Austral. vii. pl. lxi.; Reichenb. Syst. Av., Suppl. Longip. pl. xi. fig. 774; Macpherson, Fauna of Lakeland, pl. to p. 458.

Ad. suprâ schistaceo-fuscus, subtùs albus: pileo et dorso imo saturationibus: regione scapulari pallidiore magis griseâ, plumis subpallidiùs marginatis: uropygio imo et supracaudalibus griseo-schistaceis, his vix albo marginatis: remigibus rectricibusque nigro-fuscis, secundariis albo apicatis: tectricibus alarum fuscis, griseo-albido apicatis: fronte et striâ superciliari albis: plagâ suboculari et regione paroticâ saturatè schistaceo-fuscis: rostro et pedibus nigris, pedibus membranis flavis nigro marginatis, unguibus nigris: iride fuscâ.

Adult (Teneriffe, May). Upper parts slaty brown, darker on the crown and lower back, and paler and greyer on the dorsal region, the feathers with somewhat paler margins; lower rump and upper tail-coverts pale slate-grey, the latter narrowly margined with white; wings and tail blackish brown, the secondaries margined with white at the tip; wing-coverts brown, tipped with greyish white; forehead and a superciliary stripe white; a broad patch from below the eye to beyond the ear-coverts dark slaty brown, rest of the underparts white: bill and legs black, the webs yellow with a dark edge; toes black. Total length about 8 inches, culmen 0·9, wing 6·0, tail 3·35, middle rectrices 0·42 shorter than the lateral ones, tarsus 1·7.

The adult female does not differ from the male, and the adult plumage is assumed directly after the down stage, the immature feathered birds not differing from the adult in plumage.

According to Mr. Ogilvie Grant the males are, on the average, distinctly smaller than the females, the average length of the wing in the male being 6·25 inches, and that of the female 6·38.

THE present species inhabits the seas of the southern hemisphere, ranging north to the Canary

Islands, and has once occurred on the coast of North America, and once in Great Britain, one having, according to Mr. A. H. Macpherson (*Ibis*, 1891, p. 602), been washed up dead on the outside of Walney Island, after a severe gale, in November 1890.

In the Canaries it breeds regularly; and Mr. Ogilvie Grant, who took its eggs on the Salvages, has brought back many specimens from there. On the American coasts of the Atlantic, according to Mr. Ridgway (*Auk*, ii. p. 386), one was captured on board the U. S. Fish Commission Steamer 'Albatross,' on the 2nd September, 1885, in lat. $40^{\circ} 34' 18''$ N., long. $66^{\circ} 09'$ W., having been probably attracted by the light, and fell on the deck, from which it seemed unable to rise. Mr. O. V. Aplin (*Ibis*, 1894, p. 212) believes that he saw one on the 10th June about 113 knots from Monte Video, and it was first noticed during Captain Cook's first voyage, and a specimen obtained on the 23rd December, 1768, in lat. 37° S., off the east coast of South America, about opposite the mouth of the Rio de la Plata.

In the southern seas, Sir Walter L. Buller writes (*B. of N. Zeal.* p. 321), "it appears to have a wide range. It is not so plentiful, however, off the New Zealand coast as *Thalassidroma melanogaster*, although the habits of the two birds appear to be precisely alike."

Gould (*Handb. B. Austr.* ii. p. 482), who met with it off the Australian coast, writes that "numerous individuals in my own collection were obtained in Australia. Gilbert discovered it breeding on some of the small islands lying off Cape Leuwin in December, where he procured numbers of its eggs, as well as many examples of the adult birds; he also met with it on a small island about three miles south of East Wallaby Island in January, by which time the young birds were almost ready to leave their holes." Mr. H. O. Forbes (*Ibis*, 1893, p. 542) records it as breeding in the Chatham Islands, and describes its eggs; but the best, and in fact the only detailed, account of its nesting-habits is that by Mr. Ogilvie Grant, who writes (*Ibis*, 1896, p. 51) as follows:—"We first observed and recognized with pleasure these beautiful Petrels as we neared the Salvages, when numbers were seen flitting along close to the surface of the sea, with their long legs dangling beneath them and just touching the water. Now they would be lost sight of in the hollows between the huge Atlantic rollers, now reappear, closely following the undulating waters with their graceful easy flight. On the afternoon of our arrival on Great Salvage we found an egg of this bird in what we at first mistook for a rabbit-burrow, but it was unfortunately broken by one of the men. This, however, opened our eyes, and we subsequently found that large colonies of the White-breasted Petrel were breeding on the flat top of the island, in burrows dug out in the sandy ground, and partly concealed by the close-growing ice-plant. It was very unpleasant walking over these breeding-grounds, which occupied considerable areas, for the ground was honeycombed with burrows in every direction, and gave way at each step, one's boots rapidly becoming full of sand. By thrusting one's arm into one hole after another, we soon procured a fine series of specimens, accompanied in most cases by an egg, for we had evidently hit off the breeding-season, and most of the birds, having laid their single egg, were beginning to sit. Most of the eggs were white, more or less finely spotted, and often zoned towards the larger end, with dark red and purplish dots, but some few were equally spotted all over the shell, while one was almost devoid of markings. In shape they vary considerably, some being perfect ovals equally round at both ends, while others are slightly pointed at the one end (*cf.* Forbes, *Ibis*, 1893, p. 542). Both sexes take part in incubation, for out of twelve birds

captured on the egg three were males. While thus engaged we found quite a number of dead birds and sucked eggs, evidently the work of the mice already mentioned, as their droppings were to be seen all about the burrows, and the marks of their teeth upon the empty shells were unmistakable. The birds, some of which were quite freshly killed and almost untouched, were invariably done to death by being bitten at the nape of the neck, and in some cases most of the brain had been eaten. It seems curious that these comparatively small mice should be able to kill a bird several times larger than themselves, and provided with a fairly strong, hooked bill; but no doubt the Petrels get caught in the end of their burrow, and, being terrified, do not even try to defend themselves. We obtained no young of this species, and the most advanced eggs were but half incubated on April 27th. We never heard the call of this bird; those flying over the sea during the daytime were always perfectly silent so far as we heard, though they constantly passed close to our tug, and there was no lack of them. When caught on their eggs they uttered a short, grunting note, much like that given vent to by the domestic Pigeon under similar circumstances. Our Lanzarote pilot informed us that numbers of these birds breed on the Little Piton, where there are neither rats nor mice to interfere with them. . . . A large series of eggs measures 1·35–1·48 by 1·0–1·08 inch.”

I am indebted to Mr. Ogilvie Grant for two eggs of this Petrel, which are white finely spotted, chiefly at the larger end, with pale red.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, *ad.* Victoria, Teneriffe, May 1889; *b*, *ad.* Orotava, Teneriffe, March 22nd, 1889 (*R. Gomez*). *c*, ♀ *ad.*,
d, ♀ *ad.* Great Salvage Island, April 29th, 1895 (*Ogilvie Grant*).



J.M.C. del.

DUSKY SHEARWATER.
PUFFINUS OBSCURUS

Mintern Bros. imp

PUFFINUS OBSCURUS.

(DUSKY SHEARWATER.)

- Dusky Petrel*, Lath. Gen. Syn. iii. pt. 2, p. 416 (1785).
Procellaria obscura, Gmel. Syst. Nat. i. p. 559 (1788, ex Lath.).
Puffinus obscurus (Gmel.), Steph. in Shaw's Gen. Zool. xiii. part 1, p. 230 (1825).
Nectris obscura (Gmel.), Keyserl. & Blas. Wirbelth. Eur. pp. xciv, 239 (1840).
Cymotomus obscurus (Gmel.), Macgillivr. Man. Brit. Orn. ii. p. 13 (1842).
Puffinus dichrous, Finsch & Hartl. Faun. Centralpol. p. 244 (1867).
Puffinus opisthomelas, var. *minor*, Hartl. P. Z. S. 1867, p. 832.
Puffinus opisthomelas, Finsch & Hartl. P. Z. S. 1868, pp. 9, 118.
Puffinus auduboni, Finsch, P. Z. S. 1872, p. 111.
“*Puffinus tenebrosus*, Natt.,” Pelzeln, Ibis, 1873, p. 47.

Figuræ notabiles.

Werner, Atlas, *Palmiped.*; Audubon, B. of N. Am. pl. ccxcix.; id. 8vo ed. vii. pl. cccclviii.;
Gould, B. of Eur. pl. ccccxliv.; Fritsch, Vög. Eur. pl. lxi. fig. 1.

Ad. supra nigro-schistaceus, subtùs albus: capitis lateribus nigro-plumbeo et albo variegatis: subalaribus et axillaribus albis, his versus apicem nigro-schistaceo notatis: subcaudalibus nigro-fuscis albo terminatis, remigibus et rectricibus nigris: rostro nigro-plumbeo, mandibulâ pallidiore: tarso et digito externis nigricanti-plumbeis: pedibus in parte reliquâ carneo-flavis: iride fuscâ.

Adult (Bermudas). Upper parts slaty black; underparts white, extending to the eye; feathers on the sides of the head and neck mottled; under wing-coverts white; axillaries white, slightly marked with slaty black at the tip; margin of the wing dusky; under tail-coverts blackish brown, tipped with white; quills and tail black: bill blackish plumbeous, paler on the lower mandible; outside of tarsus and the outer toe blackish plumbeous, the rest fleshy yellow; iris blackish brown. Total length about 11 inches, culmen 1·45, wing 7·0, tail 3·2, tarsus 1·5.

THE present species inhabits the tropical and subtropical seas of the whole world, occurring in the Atlantic on the eastern coasts of the United States from New Jersey to Florida, and also on the coasts of the West-India Islands, and breeds in the Bermudas and Bahamas. It has also occurred as a straggler in Great Britain.

A specimen was sent to Yarrell by Mr. B. Blackburn, who informed him that it flew on board a small sloop in the vicinity of Valentia Harbour, in Co. Kerry, Ireland, late in the evening of the 11th May, 1853; a second specimen was, according to the late Mr. H. Stevenson, found dead on the Earsham Estate, near Bungay, in Suffolk, about the 10th April, 1858; and there is a specimen in the British Museum which is stated to have been shot in Devonshire. It has been erroneously stated to occur on the Canaries and Madeira, but recent research has proved that

only *Puffinus assimilis*, and not the present species, occurs and breeds on those islands. It is found in the South Atlantic and the Indian Ocean. Captain Shelley received a specimen from the Seychelles, and there is a specimen in the British Museum from the island of Bourbon. It has also been recorded from the Caroline and the Pelew Islands, New Hebrides, and New Zealand, but is said to be rare in the last-named island. It is also found in the Pacific, and there are specimens in the British Museum from the Samoa Islands and the Galapagos.

With regard to the occurrence of this Shearwater on the eastern coasts of the United States, Messrs. Baird, Brewer, and Ridgway write (Water-Birds of N. Am. ii. p. 388) as follows:—"This species was ascertained by Major Wedderburn to breed on Gurnet-head Rock; and is supposed to be the same as the bird described as the 'Cahow' by Captain Smith, in his account of Bermuda, in 1629*. It was found breeding by Captains Orde and M^cLeod, and specimens of the bird, together with its eggs and young, were procured in May 1849. To this statement Mr. Hurdis adds that this species is still known in Bermuda by the name of 'Cahow,' which is said to be an imitation of its peculiarly guttural note, described as sounding like the syllables cao-hoo. Mr. Salton Smith, of St. George, informed Mr. Hurdis that he visited Black Rock, at the entrance to Castle Harbour, where he obtained two young birds of this species and a dozen or more of their eggs. Unfortunately his boat was upset, and all the specimens lost. The two young birds were both found in the same hole, but the old ones were not seen. On the 17th May, 1849, Captains Orde and M^cLeod visited Black Rock, landed without difficulty, and on a ledge halfway from the summit captured two fine examples of this species. One was sitting on a single white egg; the other had nothing under it. Both were found in holes in the rock, and allowed themselves to be captured by the hand. A young bird of the same species, covered with black down, was also found upon the rock. The egg is described as about the size of that of the Common Fowl, and more finely polished on the surface.

"Audubon mentions that on the 26th of June, 1826, when becalmed in the Gulf of Mexico, off the western coast of Florida, he noticed that the birds of this species were quite numerous. They were skimming along near the surface of the water, and in doing this would flap their wings six or seven times in succession, and then sail for three or four seconds with great ease, having their tail much spread and their long wings extended at right angles with the body. On approaching a mass of seaweed they would raise their wings obliquely, drop their legs and feet, and appear to run on the water, and at length to alight. They were able to swim and dive with all the ease of a Duck. Their wings are strong and muscular. The stomach of a specimen examined resembled a leather purse, and was found much distended with fish of various kinds, partially digested or entire, some of which were two and a half inches long. Audubon also states that he has met with this species as far north as Sandy Hook; and it is said by Giraud to visit the coast of Long Island occasionally as a straggler.

"Dr. Bryant, on his visit to the Bahamas, was repeatedly told of a singular bird called the 'Pimlico,' which had a hooked bill, and only flew by night, and which bred in the Keys. This bird proved to be the present species. It was very abundant, and was found in all the uninhabited Keys, which were near the channel and not frequently visited. The birds were breeding in holes in the rocks. He first met with them near Nassau, in the Ship channel Keys.

* Cf. Newton, Dict. of Birds, p. 831, footnote.

Incubation had already begun on the 24th March. The nest consisted of a few dry twigs, and was always placed in a hole or under a projecting portion of the rock—seldom more than a foot from the surface, and never out of reach of the hand. On being caught the bird made no noise and offered no resistance. The egg does not in the least resemble that of a Hen, being much more fragile and more highly polished. A number of eggs were broken in endeavouring to remove the bird from the nest; they varied a good deal in size and form, some being quite rounded, and others elongated. Three of them are said to have had the following measurements: 2·32 inches by 1·41; 2·04 by 1·30; 2·01 by 1·45. Both sexes incubate.

“The mournful note of these birds could be heard at all hours of the night by those anchored in the night-time near one of the Keys on which they were breeding. During the day they could be seen feeding in large flocks, generally out of sight of land. They did not fly round much, but remained quiet on the surface of the water. Dr. Bryant did not see one of them on the banks; and his observations were in conflict with those of Audubon, as he never saw them dive, or apparently catch any fish, though they were often in company with Boobies and different species of Terns, all of which were actively employed in fishing. Between Andros and the bank he saw on the 26th of April a large flock of this species covering the surface of the water, or hovering over it, for an extent of a square mile. Their number must have been enormous. In the stomachs of all of those he examined—nine in number—he found a mass largely composed of the scales of small fish and the mandibles of squids and cuttle-fish.

“Four eggs of this species (Smithsonian Institution, No. 1714), obtained by Dr. Bryant, are of a clear chalky-white color, exactly oval in shape, and have the following measurements: 2·10 by 1·45 inches; 2·05 by 1·40; 2·00 by 1·40; 2·00 by 1·40.”

Two eggs in my collection, for which I am indebted to the late Dr. Brewer, which were, he informed me, taken by Dr. Bryant on the Bahamas, resemble the eggs of *Puffinus anglorum*, being pure white, but are considerably smaller, measuring 2·10 by 1·42 and 2·0 by 1·4 inches respectively.

The specimen figured and described is in my own collection.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ad., b, jun. Bermuda, 1859 (*Hon. J. H. Darrell*).

E Mus. H. B. Tristram.

a. Castle Harbour, Bermuda, May 17th, 1849 (*Sir J. W. Orde*). *b.* Pelew Islands (*Dr. O. Finsch*).

PUFFINUS ASSIMILIS.

(GOULD'S SHEARWATER.)

Puffinus assimilis, Gould, P. Z. S. 1837, p. 156.

Puffinus bailloni, Bp. Compt. Rend. xlii. p. 769 (1856).

"*Puffinus nugax*, Solander, MS.," Bp. Consp. Gen. Av. ii. p. 205 (1857).

Procellaria nugax, Schlegel, Mus. Pays-Bas, vi., *Procellaria*, p. 31 (1863).

Puffinus obscurus (nec Gmel.), Finsch, J. f. O. 1870, p. 370.

Figura nulla.

Ad. P. obscuro similis, sed corpore suprà magis schistaceo, loris albis et capitis lateribus magis albo notatis: subalaribus, axillaribus et pogonio interno remigum in parte basali albis, subcaudalibus albis immaculatis.

Adult (Porto Santo, February 14th). Differs from *P. obscurus* in having the upper parts rather bluer in tinge, the white extending rather more round the eye and on the lores; under wing-coverts and axillaries pure white; the outer portion of the inner web of the primaries white, except at the tip; under tail-coverts pure white. Total length about 10 inches, culmen 1·2, wing 7·1, tail 2·85, tarsus 1·42.

Nestling (Santa Ursula, April 18th). Covered with close soft down; the upper parts brownish grey; the underparts pale ashy grey; the centre of the abdomen nearly pure white.

Obs. In the adult plumage the differences between the present species and *Puffinus obscurus* are very apparent, but the young bird of the present species has the under tail-coverts marked with greyish brown, and the white on the inner webs of the primaries is duller, so that in that stage of plumage the two species are not so easy to discriminate.

THE present species, closely allied to *Puffinus obscurus*, with which it has been so frequently confounded, inhabits the Australian and New Zealand seas, and also the Atlantic Ocean, occurring as far north as the Canaries and Madeira, where it breeds. Capt. Savile Reid, Messrs. Meade-Waldo and Ogilvie Grant all record it from these islands, and I have received many specimens of both the bird and egg from Don Ramon Gomez, of Orotava, and Padre Schmitz, of Funchal. Mr. Ogilvie Grant, who met with it during his visit to the Salvage Islands, writes (*Ibis*, 1896, p. 50) that, so far as he could ascertain, it "was the only other bird of this genus [besides *P. kuhli*] that visits Great Salvage. At Porto Santo we had already found it breeding plentifully on the Lime Island, and satisfied ourselves that it is this species—and not *P. obscurus*—that occurs there. The young birds do not show the white inner webs to the quills clearly, and hence Mr. Salvin and I were both led to believe that the specimens brought back in 1890 were the young of *P. obscurus*. I recently examined more than a dozen old birds in

Padre Schmitz's collection at Madeira, which had been obtained at Porto Santo, and these were, without exception, typical *P. assimilis*. At Great Salvage we procured downy young in various stages, and one late egg, almost fresh; this is large for the size of the bird, and the shell is pure white and perfectly oval in shape, the two poles being equally rounded. We never saw much of these birds. During the daytime there were generally some to be seen at sea, often in company with the Mediterranean Shearwater, and one night an old female flew into our camp attracted by the powerful lantern. Every night our men used to sally forth in pairs, to search for this and other species of Petrels, in their nesting-cavities on the sides of the cliffs—bad enough walking, even in daylight, but no harm came of it. One man carried the lamp (a tin coffee-pot it looked like, filled with kerosene oil, and with a coarse cotton wick protruding from the spout), which gave out a brilliant light, while his companion searched the numerous miniature caves and crevices till he had filled his own and the lamp-bearer's shirts with birds of various kinds. In this way we got several nice adults of this species, which were never to be found with their young during the day. The note of these birds we never ascertained, and when seen on the wing they were always perfectly silent so far as we noticed."

Mr. F. DuCane Godman records (Ibis, 1866, p. 104) a small Shearwater from Flores, Azores, which is doubtless referable to the present species. It was said to arrive there in March and to breed in the cliffs.

I do not find any record of its occurrence in other parts of the Atlantic; but Taczanowski (J. f. O. 1870, p. 55) states that he saw several pairs at Stora, Algeria, of a small Shearwater which he records as *P. obscurus*, but which belonged more probably to the present species.

In the Australian seas this Shearwater appears to be generally distributed and fairly common. Mr. Gould says (Handb. B. of Austr. ii. p. 459) that all the specimens he obtained were procured on Norfolk Island, where it is said to breed. On his voyage homeward from Australia he saw numerous examples flying off the north-eastern end of New Zealand.

Mr. Salvin, in the recently published volume of the Catalogue of Birds in the British Museum, separates the form of the Manx Shearwater inhabiting the Mediterranean under the name of *Puffinus yelkouanus* (Acerbi) (Cat. B. Brit. Mus. xxv. p. 379), and says that it can always be distinguished from the northern form in having "the upper surface paler and browner; the flanks and under tail-coverts usually dusky brown; the axillaries brown towards their ends; the tarsi and toes longer. Total length about 15 inches, wing 9·0; tail, central rectrices 2·75, lateral rectrices 2·6; bill 1·9, tarsus 1·8, middle and outer toes 1·95, inner toe 1·55." The range he gives as the "Mediterranean Sea, straying northwards to the coasts of Devonshire and Cornwall."

I have carefully compared the series in the British Museum and those in my own collection, and regret that I cannot agree with Mr. Salvin in granting specific rank to this form, as I find that though, as a rule, the southern birds are, as stated by him, paler and browner on the upper parts, and have the flanks and under tail-coverts browner, yet the differences are very slight indeed; and I find specimens from the Mediterranean which I cannot separate from *Puffinus anglorum*, and others from Great Britain which are undistinguishable from examples obtained in the Bosphorus.

I possess a single egg of Gould's Shearwater, taken by Don Ramon Gomez at Santa Ursula,

Teneriffe, on the 26th April, 1891, and sent to me with the parent bird, which differs from those of *Puffinus obscurus* in being rather rounder and less elongated in shape, pure white in colour, and measures 1·7 by 1·32 inch, being also, as will be seen, considerably smaller.

As this species differs chiefly in having the under surface of the wing whiter, and in having the inner webs of the primaries white and not dusky blackish, I have not deemed it necessary to give a figure of it.

In the preparation of the above article I have examined, besides the series in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂. Orotava, Teneriffe, June 1st, 1889; *b*, ♀. Orotava, May 26th, 1889 (*Ramon Gomez*). *c*. Santa Ursula, April 26th, 1891 (*Gomez*). *d*, ♀. Porto Santo, February 14th, 1895 (*Padre Schmitz*). *e*, *pull.* Santa Ursula, April 18th, 1891 (*Gomez*).



J. Z. Kaulemans del. et lith.

SOFT-PLUMAGED PETREL.
ÆSTRELATA MOLLIS.

Mintern Bros. imp.

ÆSTRELATA MOLLIS.

(SOFT-PLUMAGED PETREL.)

?*Procellaria melanopus*, Gm. Syst. Nat. i. p. 562 (1788).

Procellaria mollis, Gould, Ann. & Mag. Nat. Hist. xiii. p. 363 (1844).

Cookilaria mollis (Gould), Bp. Consp. Gen. Av. ii. p. 190 (1855).

Rhantistes mollis (Gould), id. Compt. Rend. xlii. p. 768 (1856).

Æstrelata mollis, Gould, Handb. B. of Austral. ii. p. 453 (1865).

Fulmarus (*Cookilaria*) *mollis* (Gould), Gray, Hand-l. of B. iii. p. 107. no. 10897 (1871).

Æstrelata mollis (Gould), Salvin, Ibis, 1877, p. 480.

Æstrelata philippi (nec Gray), Saunders, P. Z. S. 1880, p. 164.

Figuræ notabiles.

Gould, B. of Austral. vii. pl. 1.; Reichenb. Syst. Av., Natatores, pl. xxv. figs. 2606–7.

Ad. corpore suprâ schistaceo-cinereo, capite saturatiore: plumis frontalibus albido marginatis: plagâ antoculari nigricanti-cinereâ: alis nigro-fuscis: caudâ cinereâ, rectricibus lateralibus albido lentiginosis: loris, gulâ et corpore subtùs purè albis, pectoris lateribus cinereis: hypochondriis cinereo lentiginosis: rostro nigro: tarso, digitis ad basin et membranâ interdigitali dimidio basali carnescenti-flavidis: pedibus aliter nigris: iride fuscâ.

Adult Male (Funchal, August 6th). Upper parts slate-grey, the head rather darker; feathers on the forehead margined with white; a blackish-grey patch in front of and below the eye; wings blackish brown, much darker than the back; tail grey, the lateral rectrices freckled with white; lores, throat, and underparts white; sides of the breast grey; flanks freckled with grey; under tail-coverts white: bill blackish; tarsus and basal portion of feet yellowish flesh-colour, the remainder blackish; iris dark brown. Total length about 13 inches, culmen 1·3, wing 10·4, central rectrices 4·65, lateral rectrices 3·25, tarsus 1·4.

THE Soft-plumaged Petrel inhabits the southern seas down to Kerguelen Land, and ranges as far north in the Atlantic as Madeira, where several examples have been obtained by different collectors; and though it has not been found breeding so far north, it is by no means improbable that it may yet nest on some of the islands near Madeira or the Canaries. I have received a specimen from Padre Ernesto Schmitz, of Funchal, Madeira, and am indebted to Mr. J. J. Dalglish for the loan of another, which was taken on the Ilho de Baixo, off Porto Santo, in July 1889. Mr. Dalglish also remarks (Ibis, 1890, p. 386) that, as he was informed by Professor Newton, there are in the Cambridge Museum two specimens obtained some 35 years previously from the Desertas by Mr. Robert Frere. It occurs off the coasts of South Africa, and is, Dr. Sharpe says (B. of S. Afr. p. 766), “common along the southern coast of Cape Colony to the eastward. It is found far out at sea, and its flight is peculiarly rapid

and graceful. It is generally seen in small companies, although each appears to hunt and dwell apart."

It occurs at Kerguelen, where it was obtained by the German Expedition; and Mr. Eaton, who believes that he saw it there, writes (Zool. of Kerguelen Isl. p. 28) as follows:—"Off Cape Sandwich and the neighbouring lowland, and out at sea during the first few days' sail from Kerguelen Island, I noticed a Petrel very like *Æ. lessoni*, but differing from that species in having a dark-coloured back and tail. This may have been *Æ. brevirostris*. But when I was looking through the collection in the South-African Museum, on my return to the Cape, I was led to believe the species I had seen to be *Æ. mollis*, Gould, which is represented in the collection mentioned by a specimen taken in lat. $31^{\circ} 26'$ S., long. $30^{\circ} 26'$ E., exhibited as *Procellaria mollis*, Gould."

According to Mr. Gould (Handb. B. of Australia, ii. p. 453), "This species flies in the greatest abundance between the 20th and 50th degrees of south latitude; but I observed it to be more numerous in the Atlantic than in the Pacific; and probably, like the other wandering members of this genus, it makes a circuit of the globe. Although I have not seen it within sight of the shores of Australia, it doubtless occasionally visits them, for I observed it to be plentiful off the eastern end of the islands of St. Paul and Amsterdam."

Specimens were obtained on the 'Novara' Expedition near the north of New Zealand, in 35° S. lat. and $175^{\circ} 5'$ E. long.

Messrs. Layard record it as breeding in New Caledonia, and say (Ibis, 1882, p. 539) that it "breeds in great numbers about the summit of Mount Mou, in burrows. The birds and eggs were obtained by Mr. Atkinson on 10th February, 1882, the latter all nearly ready for exclusion, and dirty white, red-stained with earth, rather pointed at one end, not oval: axis $2'' 1'''$, diam. $1'' 6'''$. Only one egg in each nest. Mr. Atkinson heard the birds calling as they passed high overhead at night. They are never seen over the land by day."

Beyond these notes by Messrs. Layard, I find nothing on record respecting the nidification of this Petrel, and have never been able to examine an authentic egg.

The specimen figured is the one above described, and is in my own collection.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Funchal, Madeira, August 6th, 1891 (*Padre E. Schmitz*).

E Mus. J. J. Dalgleish.

a. Ilho de Cal, Porto Santo, Madeira, July 1889 (*Padre E. Schmitz*).



Mintern Bros. int.

WHITE-BILLED DIVER.
COLYMBUS ADAMSII

J. O. Keulemans del. et lith.

COLYMBUS ADAMSI.

(WHITE-BILLED DIVER.)

Cepphus torquatus, Pall. Zoogr. Ross.-As. ii. p. 340 (1811, partim).

Colymbus glacialis (nec Linn.), Middendorff, Sib. Reise, ii. part 2, p. 238 (1851).

Colymbus adamsii, G. R. Gray, P. Z. S. 1859, p. 167.

Colymbus torquatus, var. *adamsii*, Coues, Key N.-Am. Birds, p. 234 (1872).

Urinator adamsii (Gray), Stejneger, Proc. U. S. Nat. Mus. v. p. 43 (1882).

Colymbus torquatus adamsi, Coues, 2nd Check-list, no. 841 (1882).

Colymbus torquatus, b. *adamsii*, Coues, B. of N.-W. p. 720 (1874).

Colymbus adamsi, G. R. Gray, Hand-l. of B. iii. p. 92. no. 10736 (1871).

Bolschoi-Gagára, Russian; *Morskaja Gagára*, Iakutsk; *Móra Kowa* on the Boganida;
Uvankets jouku, Tschuktsch; *O-hamu*, Japanese; *Tu'd-lin*, Eskimo.

Figuræ notabiles.

D. G. Elliot, B. of N. Am. ii. pl. lxiii.; Collett, Ibis, 1894, pl. viii.

Ad. ptil. æst. corpore suprâ sicut in *C. glacialis* picturato, sed maculis albis majoribus, dorso imo immaculato et uropygii maculis sparsis: gulâ cæruleo-nigrâ violaceo tinctâ: collari juguli magis conspicuè striato: rostro flavo-albo.

Ad. ptil. hiem. corpore suprâ nigro vix guttato: uropygio immaculato: pileo, nuchâ et collo postico grisescenti-nigris: corpore subtùs albo: gulâ et gutture cinereo-fusco notatis.

Juv. pileo, nuchâ et collo postico cinereo-fuscis: corpore suprâ cinereo-fusco, dorsi plumis, scapularibus et tectricibus alarum conspicuè cinereo marginatis: uropygio ferè immaculato, sed supracaudalibus cinereo apicatis: corpore subtùs albo.

Adult in summer (Russian America). Upper parts similar to *C. glacialis*, except that the spots on the back and wings are considerably larger, those on the back being more restricted to the middle of the back, there being a space free from spots between them and those on the wings; lower back unspotted, and the dots on the rump fewer than in *C. glacialis*; shafts of the wing-feathers light horn-colour nearly to the tips; throat and collar blue-black with a violet gloss; the upper or throat-collar with fewer and larger stripes; the lower or neck-bar widest in the middle, generally smaller than in *C. glacialis* and with larger stripes: culmen whitish yellow, longer than the tarsus, culmen and commissure straight. Total length about 32 inches, culmen 4·3, gape 4·7, wing 15·25, tail 2·6, tarsus 3·5.

Adult Male in winter (Tromsø Fjord, November 5th). Crown, nape, and hind neck dull blackish grey; upper parts generally black, with a few white spots on the wing-coverts and one or two on the back; rump unspotted; underparts white; the throat and neck marked with greyish brown.

Young (Næsodden, November 27th). Head and neck like the adult in winter, but more greyish brown in colour; upper parts generally greyish brown; the feathers on the back, scapulars, and wing-coverts broadly margined with ashy grey; rump nearly uniform in colour, but the upper tail-coverts are tipped with ashy grey; underparts pure white.

THE present species, which is a Pacific and North-Asiatic representative of our European Great Northern Diver, inhabits during the summer season the arctic portions of Western America and Asia, and during the winter it has occurred as far south as Japan. But it also visits the coasts of North Russia and Norway, and has strayed as far west as Great Britain.

Although not named until 1859 by Gray, it was obtained as far back as 1830 by Sir James Clark Ross in Boothia, and both he and Audubon (B. of Am. vii. p. 291) remarked the difference between it and *C. glacialis*, though they did not describe or name it as distinct.

Messrs. Baird, Brewer, and Ridgway write (Water-B. of N. America, ii. p. 452) that "Mr. Bernard Ross mentions his having met with it in considerable numbers in Great Slave Lake. Mr. McFarlane found it breeding, and obtained two eggs and several specimens of the bird, in the vicinity of Fort Anderson and on the shores of the Arctic Ocean. Specimens were also taken by Mr. Ross at Fort Simpson, by Mr. Clarke at Fort Rae, by Mr. J. Reid on Big Island, and by Bischoff at Kadiak. This Loon was found to be quite common at Fort Resolution, where several specimens were obtained by Mr. Kennicott in the summer of 1860, as well as on the Yukon River. Mr. B. R. Ross secured specimens at Fort Norman and Fort Simpson. It was obtained on Peal's River by Mr. Gaudet, at Fort Resolution by Mr. J. Lockhart, and on the Anderson River and its neighbourhood generally by Mr. McFarlane." Mr. E. Adams, after whom this bird was named by Mr. Gray, obtained it at Michalaski, Alaska, on the shores of Norton Sound, in 1851. According to Mr. Turner it occurs sparingly near St. Michael's. Mr. Nelson says (Nat. Hist. Coll. Alaska, p. 36) that it is "a not rare summer resident in certain localities about the head of Kotzebue Sound. At Point Barrow this species is rather common. Mr. Murdoch states that they were not often noticed during the season of 1882, but in 1883 they were fairly abundant. They were first seen by him the last of May and first of June in the open 'lead' offshore and flying thence inland. Later in the season they were found about openings in the ice along shore, and in the adjacent lagoons, moving offshore, however, with the ice. These birds were generally silent; but he noted that their 'laugh' was harsher than that of the Great Northern Loon."

On the Pacific it ranges in winter as far south as Japan. Dr. Stejneger (Orn. Expl. &c. p. 14) speaks of it as being a winter visitor to the Commander Islands, of rather rare occurrence, but one, a young bird, was obtained on Behring Island in November 1882, and another seen. According to Taczanowski (Faun. Orn. Sib. Orient. p. 1261), "Dr. Dybowski brought back an adult male from Kamtschatka, and the Diver seen by Mr. Godlewski in the Bay of Abrek probably belonged to this species." Messrs. Blakiston and Pryer record it (Ibis, 1878, p. 211) as "common in the spring at Yezo," but a skin sent by them to Mr. Seebohm was that of *Colymbus arcticus* (Ibis, 1879, p. 22); Mr. Saunders, however (Ibis, 1883, p. 348), received one, shot off Nagasaki, from Capt. St. John, and an immature bird was sent to Mr. Seebohm (Ibis, 1884, p. 32) from Hakodadi, where it was also stated by Mr. Swinhoe (Ibis, 1877, p. 146) to have been obtained in January 1876.

On the arctic coasts of Asia it would appear that this species replaces *C. glacialis* altogether, this latter species not having been met with, so far as I can ascertain, further east than the White Sea. According to Prof. Palmén ('Vega'-Exped. p. 403) at the winter-quarters of the expedition at Pitlekaj the natives brought in three old birds on the 3rd July, 1879, obtained a short distance inland; and Lieut. Palander, on a long expedition to the south of Pitlekaj, shot a female on a lake which had its nest containing one egg on the shore. The egg was chocolate-brown, with greyish-black shell-markings and black surface-spots, and measured 94 by 55·5 millimetres. Von Middendorff says (*l. c.*) it breeds on the Taimyr River, but is rare there; and Mr. Pleske writes that the specimen obtained by von Middendorff on the island of Kildin, on the Murman coast, Kola Peninsula, in September 1840, and recorded as *C. glacialis*, which is now in the St. Petersburg Museum, is referable to the present species. Mr. Trevor-Battye says (B. of Kolguev, p. 439) that he saw it on the west coast of Kolguev on the 15th and again on the 23rd June; and Mr. H. J. Pearson writes (*Ibis*, 1896, p. 225) that he saw one on Wilczek Lake, Novaya Zemlya, but did not shoot it; and Mr. C. E. Pearson and the Rev. H. H. Slater saw one on a small lake near Belootcha Bay. In both cases the light-coloured bill could be clearly distinguished.

In Norway it was first recorded from the Flekke Fjord, in the extreme north of that country, in November 1875, but Professor Newton informs me that he saw a specimen in one of the Norwegian Museums in 1864. Since then its occurrences have become more frequent, and it is now stated by Professor Collett to "visit the coasts of Norway annually, especially during the autumn and winter, in some years even in considerable numbers, and specimens of it are now preserved in several of the museums of this country. The winter visitors usually appear in October, and most of the specimens hitherto examined have been obtained during the period from October to December. They consist of both young of the year and adults. Of the latter some are one-year-old individuals, which still (in the second winter) continue to bear their grey plumage, and some are in full summer plumage, or changing from it to the grey winter plumage of the third year.

"During their visits to the Norwegian coasts these birds, on some occasions, penetrate to the interior of the southernmost fjords (for instance, the Christiania Fjord); but most of them appear to stop on the northern shores. Thus they were very numerous in the neighbourhood of Tromsø and several other places to the north of the Polar Circle during the winter of 1892-93, but only a small number, which were shot and offered to museums, were preserved. They also appear to be numerous during the present winter, 1893-94, in some places perhaps even more common than *C. glacialis*. They disappear, as a rule, during the spring and summer, although it is not improbable that stray individuals pass the summer without breeding on the shores of Norway."

The above extracts are taken from an excellent monographic article on the present species (*Ibis*, 1894, pp. 269-283) by my friend Professor Robt. Collett, of Christiania, which I have found most useful in writing the present article.

It has certainly occurred in Great Britain on several occasions. Mr. J. H. Gurney possesses a specimen which was shot early in the spring of 1852 at Pakefield, near Lowestoft; the late Dr. Churchill Babington figured an immature bird in his 'Birds of Suffolk' which is supposed to have been obtained in that county; and there is a specimen in the Newcastle Museum which,

according to Mr. John Hancock, was certainly shot at Embleton, on the coast of Northumberland, in December 1829. Mr. Booth (Rough Notes, vol. iii.) obtained a very large Diver, which had a white bill, at Hickling Broad on the 14th December, 1872, which, in all probability, was referable to the present species; and it is very possible that other specimens of the White-billed Diver have been obtained in Great Britain, and been mistaken for the Great Northern Diver.

It appears to have straggled as far south as Austria, as the Ritter von Tschusi zu Schmidhoffen (Orn. Jahrb. 1894, p. 145) records the existence in the Museum of Linz, Austria, of a young example procured in 1840 on the Alter See in Upper Austria.

Prof. Collett remarks (*l. c.*) that "but little information concerning the habits of *C. adamsi* has been obtained on the Norwegian coasts. Some of the specimens were caught in nets, in which they had been entangled when diving. The largest male in the University Museum of Christiania, from the Porsanger Fjord (Nov. 1893), was taken on a hook which was laid at a depth of about 15 fathoms. In the specimens that I have dissected the stomach was filled with the remains of fishes, and had a quantity of gravel in it. The last specimen received (from Porsanger in Finmark, Dec. 20th, 1893) contained an example of *Cottus scorpius* (total length 270 mm., a full-grown female filled with roe)."

As above stated, there is but one record of the breeding of this Diver in the Palæarctic area, but it must nest not uncommonly on the northern shores of Asia. In North-west America it breeds not uncommonly in Alaska. Mr. Nelson (*l. c.*) says that "they nest every summer in about equal numbers with *torquatus*, even outnumbering the latter in some places. Selawik Lake and the Kunguk River were the places that all seemed to claim as the points of greatest abundance. The shore of Norton Bay is a breeding-ground for a few pairs, as is the low coast of Bering Straits, from Golovina Bay to Port Clarence." According to Mr. Murdoch (Exp. Point Barrow, p. 127) fully fledged young were seen August 7th, 1883. The breeding-grounds, he adds, are probably around the swamps and lakes some distance inland.

The adult specimen in summer plumage figured and described is in the British Museum, and those in the immature and adult winter plumage are in my own collection.

In the preparation of the above article I have examined, besides those in the British Museum, the following specimens:—

E Mus. H. E. Dresser.

a, ♂ *ad.* Tromsø Fjord, November 5th, 1875; *b*, ♂ *juv.* Næsodden, Norway, November 27th, 1893 (*Prof. R. Collett*).

NOTES ON SPECIES

WHICH HAVE BEEN RECORDED AS HAVING OCCURRED IN EUROPE,

BUT ARE NOT INCLUDED IN THE PRESENT WORK.

WITH regard to the question as to which species should be included and which discarded, I have often found it far from easy to arrive at a satisfactory conclusion, especially so far as stragglers to the borders of the region are concerned. My rule has been to include such species as have undoubtedly been obtained on at least two occasions, but to avoid including, if possible, such as belong to strictly non-Palæarctic genera, and for that reason I have excluded the Jordan Valley, as its fauna is essentially Ethiopian; and though I have been strongly urged to include the whole of Lower Egypt in the Western Palæarctic area, I have deemed it best not to do so, and have omitted such species as *Rhynchæa capensis*, *Centropus ægyptius*, and *Rhynchops flavirostris*, which have been met with as far north as the Nile Delta, as belonging to genera which are in no sense Palæarctic. There are many species which have been included by different authors on European ornithology which I have omitted, chiefly because they have been admitted on insufficient grounds, and of these I give the following list.

Turdus pallidus, Gm., is stated by Temminck (Man. d'Orn. iii. p. 98) to have been obtained in September 1823 near Herzberg in Saxony, and by Bonelli and Gén   it has been recorded from near Turin; but it is doubtful if these were *T. pallidus* or *T. obscurus*. The figure in Gould's B. of Eur. ii. pl. lxxx. certainly represents *Turdus pallidus*.

Turdus olivaceus, Linn., is included by Degland and Gerbe, who say that, according to Prof. De Filippi, large numbers appeared at Polavina, in the Province of Brescia, in 1843; but later authorities on Italian ornithology do not admit this South-African Thrush; and Count Salvadori (Fauna d'Italia, Uccelli, p. 80) gives good reasons for discarding it.

Turdus migratorius, Linn.—A specimen is said (Zool. 1877, p. 14) to have been taken alive off Dover in April or May 1876; and it is included by Naumann (V  g. Deutschl. xiii. p. 336) as having been offered for sale on more than one occasion in the Vienna market. Mr. G  tke also records the occurrence of one on Heligoland on the 14th October, 1874. It is, however, a bird that is often kept in confinement, and the specimens obtained were probably escaped birds. It is a common North-American bird.

Oreocincla dauma (Lath.) is included by Prof. Giglioli (Avif. Ital. p. 103) on the strength of a specimen in the museum labelled as *O. varia*, and said to have been killed near Vado (Savona) in the autumn of 1854, but he puts it amongst the doubtful species. According to G  tke (Die Vogelwarte Helgoland, p. 245) a specimen now in the Lund Museum was obtained through the dealer Brandt of Hamburg, who gave F  hnen as the locality; but Brandt subse-

quently informed him this was one of two specimens received by him from Heligoland about 1836. Brandt's statements are, however, very unreliable, as he informed Gould that the two specimens in question were obtained near Hamburg.

Harporhynchus rufus (Linn.) is said by Mr. Gätke to have been obtained by a fowler on Heligoland in the late autumn of 1836, but he was unable to trace and procure the specimen to obtain confirmation of this statement.

Galeoscoptes carolinensis (Linn.).—This, which, like the preceding, is a common North-American species, has once occurred on Heligoland—a specimen in the Gätke collection having been shot on the 28th October, 1840, by Oelrich Aeuckens; and, so far as I can ascertain, there is no other instance of its having been met with in Europe.

Cinclus pallasi, Temm., is included in Prof. Blasius's 'List of the Birds of Europe' on the authority of Mr. Gätke, who says that one was seen there, but not obtained, in 1847. Gould figures it (B. of Eur. ii. pl. lxxxv.), and says, on the authority of Temminck, that it occurs in the Crimea, but this is very doubtful.

Regulus calendula (Linn.), which is a common species in North America, is recorded (P. Z. S. 1858, p. 290) as having been shot in the summer of 1852 on the banks of Loch Lomond by Dr. Dewar, and was seen and identified by Mr. Robt. Gray, this record being, so far as I can ascertain, the only one of the occurrence of this species in Europe.

Phylloscopus coronatus (Temm.).—Mr. Gätke records (Vogelw. Helgol. p. 307) the occurrence of one on Heligoland on the 4th October, 1843, which passed into the hands of a dealer in Hamburg and has been lost sight of.

Dendroica virens (Lath.).—A single example, an old male, was shot on Heligoland on the 19th November, 1858, by a boy with a blowpipe, as recorded by Mr. Gätke (Vogelw. Helgol. p. 326).

Parus minor, Schlegel, is included by Prof. Blasius (List of B. of Eur. p. 8) on the authority of C. L. Brehm, who (Vogelf. p. 241) mentions it in a footnote, but does not say that it is found in Europe.

Lophophanes bicolor (Linn.) is included by Brehm (Vogelf. p. 243), who says that it strays from North America to Europe, but I cannot find any trustworthy record of its occurrence here. Gould figures it (B. of Eur. iii. pl. clii.), and says that he has seen specimens killed in Russia; but this is evidently an error.

Lanius ludovicianus, L., is stated by some ornithologists to have occurred in Great Britain (cf. Harting, Handb. Brit. Birds, p. 98), but there appears to be no proof that this American Shrike has ever really been obtained in Europe.

Vireo olivaceus (Linn.).—Two specimens are recorded (Mosley, Nat. Hist. Tutbury, p. 385, pl. vi.) as having been caught near Derby in May 1859, but there is some doubt on the subject of this occurrence.

Ampelis cedrorum (Vieill.) is said to have been killed at Stockton-on-Tees early in 1850; but Prof. Newton (in Yarr. Brit. B. i. p. 537) excludes it from the British list, and the probability is that the specimens stated to have been obtained as above were either "changed at nurse" by the bird-stuffer or had escaped from confinement. This bird is a common species in North America.

Tachycineta bicolor (Vieill.)—This, the common American Tree-Swallow, was recorded by Wolley (Zool. 1853, p. 3806) as having occurred near Derby in 1850, and the specimen was exhibited to the Zoological Society, Feb. 28th, 1860, and is now in the museum at Norwich.

Progne subis (Linn.).—The American Purple Marten is said to have been once shot near Kingston, Co. Dublin; but this occurrence is open to doubt.

Chelidon cashmiriensis, Gould.—According to Professor Giglioli (Avif. Ital. p. 187) one was killed by Signor Dante Roster at Florence on the 13th October, 1885, this being, so far as I can ascertain, the only record of its occurrence in Europe.

Cyanospiza ciris (Linn.).—One, evidently escaped from confinement, was taken alive on Portland Island in 1802 (Montagu, Orn. Dict., Suppl. fol. K 2, 1813). It is a common species in North and Central America, and is often imported into Europe as a cage-bird.

Serinus icterus (Bonn. & Vieill.).—One is stated (Nat. 1853, p. 20) to have been taken near Portland, and was evidently an escaped bird. This species inhabits a large portion of Africa.

Carpodacus roseus (Pall.) is included by Temminck, who says that it is of accidental occurrence in Hungary; and Naumann and Degland and Gerbe state that it has been met with in Russia, Hungary, and Germany; but there does not appear to be any authentic instance of its occurrence in Europe, unless it be that of a young bird said by Blasius to have been obtained in Heligoland.

Carpodacus rhodochlamys (Brandt).—This species is included with a query by Prof. Blasius in his 'List of the Birds of Europe,' but I cannot find any authentic instance of its occurrence in Europe.

Zonotrichia albicollis (Gm.).—One was recorded (Proc. N. H. Soc. Glasgow, i. p. 209) as having occurred near Aberdeen on the 17th August, 1867, and another (P. Z. S. 1872, p. 681) near Brighton on the 22nd March, 1872, but both had probably escaped from confinement. This bird is common in Eastern North America.

Dolichonyx oryzivorus (Linn.).—Gätke (Vogelw. Helgol. p. 400) says that two males were shot in Heligoland during the summer months, and brought to him, but both of these were probably escaped birds.

Junco hyemalis (Linn.).—The common American Snow-bird was included and figured by Gould (B. of Eur. iii. pl. exc.) on the authority of Temminck, who states that it has strayed to Iceland; but this appears to be a mistake, as there is no authentic instance of its having been met with there.

Emberiza fucata, Pall.—Keyserling and Blasius (Wirbelth. Eur. p. xxxix) include this East

Asiatic Bunting, and Dr. Sharpe (Cat. B. Brit. Mus. xii. p. 495) also states that it is "accidental in Europe," but I do not believe that there is any authentic instance of its having been obtained in Europe. Temminck states that it is found in the Crimea, Greece, Italy, and Provence, but there is no confirmation of this. Gould figures it (B. of Eur. iii. pl. clxxviii.) under the name of *Emberiza lesbia*.

Agelæus phæniceus (Linn.) has been several times obtained in Great Britain, but all that have been recorded were adult males, evidently escaped from confinement.

Scolecophagus ferrugineus (Gmel.).—One, also in all probability an escaped bird, was shot near Cardiff on the 4th October, 1881 (P. Z. S. 1881, p. 968).

Sturnella magna (Linn.).—One is said to have been seen in Norfolk, October 1854, one shot in Suffolk, March 1860, and a third is said to have been obtained near Cheltenham, all of which were in all probability birds escaped from confinement. This and the two preceding species are common in North America.

Caprimulgus nubicus, Licht.—Prof. Giglioli states (Ibis, 1881, p. 191) that he received a specimen of this Goatsucker from a dealer in Genoa, who assured him that it had been shot near that city.

Picus villosus, Forst.—According to Latham a pair were obtained more than a century ago near Halifax in Yorkshire, and one is said (Zool. 1849, p. 2496) to have been killed near Whitby, Yorkshire, but both these records are open to doubt.

Picus pubescens, Linn.—The Rev. O. Pickard Cambridge has a specimen supposed to have been shot at Bloxworth, Dorset, in December 1836, and one is recorded as having been killed near Elbœuf in Normandy. Walcott relates (Brit. Birds, i. p. 49) that young Spotted Woodpeckers were brought alive from West Florida and turned loose in England (*cf.* Newton in Yarr. Brit. B. ii. p. 485).

Colaptes auratus (Linn.).—One said to have been shot at Amesbury, Wiltshire, in 1836 (Zool. 1859, p. 6327), and Herr Möschler states (J. f. O. 1856, p. 335) that one was sent from Greenland in 1852. This and the two preceding species are common in North America.

Ceryle alcyon (Linn.).—Two specimens are preserved in Dublin which are said to have been shot, one in Co. Meath in October, and the other in Co. Wicklow in November 1845; but I do not think that it is advisable to include this American species on the ground of these reported occurrences.

Coracias abyssinicus, Gm.—A specimen in the Paisley Museum, received from Mr. Small, taxidermist of Edinburgh, is said to have been shot at Crookston, near Paisley, Renfrewshire, but it is difficult to believe that a strictly African species can have strayed so far from home.

Merops philippinus, Linn.—I have examined a specimen belonging to the Rev. T. M. Hicks, which is said to have been shot near the Snook, Seaton Carew, in August 1862; but it appears odd that a bird which has not been observed further west than Sind should have come alive as far as England, and I cannot but think that it may have been "changed at nurse."

Cuculus himalayanus.—A Cuckoo has been recorded from Transcaspia under this name by Zarudny (Rech. Zool. Contr. Transcasp. p. 51) as distinct from *C. canorus*, and I am indebted to Prof. Menzbier for the loan of specimens for comparison, and find that they are referable to the small race of *C. canorus* with narrower bars, which Captain Shelley says (Cat. B. Brit. Mus. xix. p. 245) is “found in Morocco, and apparently throughout the whole Mediterraneo-Persic subregion, extending down the Red Sea to East Africa and the Persian Gulf.”

Syrnium nebulosum (Forst.).—Temminck and Gould both include this North-American Owl, and the latter figures it (B. of Eur. i. pl. xlv.), and both state that it occurs in Norway and Sweden; but there does not appear to be any proof of its having been obtained in Europe.

Nyctala acadica (Gmel.).—A specimen is recorded by Sir William Milner from near Beverley, Yorkshire (Zool. 1860, p. 7104), but this is doubtless an error in the identification of the specimen. This Owl is a common species in North America.

Scops asio (Linn.).—One is said to have been shot near Kirkstall Abbey, Yorkshire, in 1852, and one near Yarmouth, but both these occurrences are doubtful. This Owl is common in North America.

Bubo sibiricus (Schl. & Susem.).—According to Prof. Menzbier (Orn. du Turkestan, p. 260), this Eagle-Owl has occurred as far west as the Perm and Orenburg Governments, and I have great doubts as to whether I should include it, but, not having seen any specimen killed in Europe, I decided that it was rather premature to do so. Prof. Menzbier also states that *Bubo turcomanus* ranges as far west as the Aralo-Caspian plains.

Otogyps auricularis (Daud.).—Temminck stated that this Vulture was found in Spain; and Messrs. Degland and Gerbe say that there are two specimens in the museum at Marseilles—one from the mountains of Provence, and the other from Spain; but more recent authorities doubt the occurrence of this species in Europe.

Buteo borealis (Gmel.).—Sterland and Whitaker (List of Birds of Notts, p. 9) state that one was killed in Nottinghamshire in the autumn of 1860, but I do not believe that this has been confirmed.

Buteo lineatus (Gmel.).—One is recorded (Ibis, 1865, p. 549) as having been shot at Kingussie, Inverness-shire, on the 26th February, 1863, by Mr. J. M^cDonald, and sold by him with a lot of Common Buzzards to Mr. Mansfield, from whom it was purchased by Mr. Baker of Cambridge, but it is quite possible that it was “changed at nurse.” Both this and the preceding species are inhabitants of North America.

Archibuteo sancti-johannis (Gmel.).—A specimen was recorded (Zool. 1876, pp. 4814, 4870) from North Devonshire, but it proved (*l. c.* p. 4901) to be a dark variety of *Archibuteo lagopus*.

Astur atricapillus (Wils.).—One is recorded (Ibis, 1870, p. 292) as having been killed in Perthshire in 1869, a second in Tipperary in 1870 (Ibis, 1870, p. 538), and a third in King's County in 1870 (Zool. 1871, p. 2524); but this Goshawk differs so little from *Astur palumbarius*

that a mistake may easily have occurred, and I do not think it advisable to include it. Both this and the preceding species inhabit North America.

Accipiter granti, Sharpe.—Dr. Sharpe describes the Madeiran Sparrow-Hawk as distinct (Ann. & Mag. N. H. ser. 6, v. p. 485) from a single specimen brought from there by Mr. Ogilvie Grant; but I am by means certain that there is any good ground for this course, and prefer not to accept the same until I can see a series and convince myself that a distinct insular form inhabits that island.

Melierax gabor (Daud.) is said to have occurred in Greece, and is also stated (Naumannia, 1856, p. 267) to have been found breeding in Portugal; but this appears to be an error, and I cannot find that a specimen obtained in Europe is in any collection.

Elanoides furcatus (Linn.).—There are several records of the occurrence of this species in Great Britain, none of which are trustworthy, except that of one taken alive near Hawes in Yorkshire, September 6th, 1805, which afterwards escaped. It seems very doubtful if this Kite, which inhabits South America and the Southern States of North America, has ever crossed the Atlantic unassisted. In any case I do not admit it, as it does not belong to a Palæarctic genus.

Falco concolor, Temm., is stated by Temminck to have occurred in Dalmatia and the Greek islands, but this appears to have been based on error.

Bubulcus coromandus (Bodd.).—Professor Giglioli (Avif. Italica, p. 281) includes this species on the strength of a specimen, a male in full nuptial plumage, shot on the 27th May, 1862, at Villastellone (Turin); and Malherbe records a specimen which he was told had come from Sicily.

Ardeola sturmi (Wagl.).—Degland and Gerbe state that this bird has been observed several times in the Pyrenees, but this statement lacks confirmation.

Butorides virescens (Linn.).—Sir Charles Sawle exhibited at the meeting of the Linnean Society on the 17th April, 1890, a specimen of the North-American Little Heron, which had been shot by his keeper, W. Abbott, on the 27th October, 1889, on his estate Penrice, St. Austell, Cornwall, this being the only record of its occurrence in Europe.

Plectropterus gambensis (Linn.).—Four instances of its occurrence in Great Britain are on record, but they were, doubtless, all birds escaped from confinement.

Chenalopex ægyptiacus (Linn.).—Specimens, doubtless escaped birds, have been obtained in Great Britain, France, Belgium, and Germany. This species breeds commonly in a semi-domesticated state.

Anser cygnoides (Linn.) is included in the 'Ibis' List of British Birds, but it is unlikely that any but an escaped bird has been obtained; and the same may be said of *Bernicla canadensis* (Linn.), the common North-American Canada Goose, which is largely kept in confinement.

Anser indicus (Lath.).—One is stated (Zool. 1858, p. 5988) to have been obtained on the Dee below Chester; but it has not been recorded from elsewhere in Europe, and it is very

unlikely that this Goose, which inhabits India and Central Asia, should have strayed so far west. Foreign waterfowl are so largely kept in confinement that escaped birds are not unfrequently shot, and it is therefore necessary to use the greatest caution in accepting records of non-European species.

Bernicla canagica (Sewast).—The late M. E. Verreaux recorded two specimens, stated to have been obtained on the Volga, but this I greatly doubt. This Goose inhabits North-east Asia and the coast of Alaska.

Cygnus americanus, Sharpless.—One was stated to have been obtained from an Edinburgh poulterer by Macgillivray in February 1841, but it has not been otherwise recorded as having occurred in Europe.

Cygnus buccinator, Richardson.—Four were said to have been shot at Aldeburgh, Suffolk, in October 1866, but it is probable that they were wrongly identified.

Cairina moschata (Linn.) is also included in the 'Ibis' list; but as this South-American Duck is commonly found here domesticated, it is doubtful if any but escaped birds have been obtained.

Dendrocygna javanica (Horsf.).—Professor Giglioli (*Avif. Italica*, p. 301) includes this Tree-Duck, as a specimen was obtained in the Turin market on the 3rd December, 1876, but I cannot believe that the bird was a wild one.

Æx sponsa (Linn.).—This common North-American Duck is also included in the 'Ibis' list; but any specimens obtained here were almost certainly birds escaped from confinement.

Querquedula discors (Linn.) and *Querquedula carolinensis* (Gmel.).—I have given my reasons for not including these two species (*ante*, p. 292).

Fuligula collaris (Donov.).—One is stated by Donovan (*Brit. Birds*, vi. pl. cxlvii.) to have been obtained in Leadenhall Market in January 1801.

Fuligula affinis, Eyton.—According to Thompson (*Nat. Hist. Ireland*, Birds, iii. p. 140) one was obtained in the London market many years ago, but it appears that an error was made in the determination of the species. It is also said to have been once obtained in Holland. This and the preceding species inhabit North America.

Ectopistes migratorius (Linn.).—Five of these Pigeons are stated to have been obtained in Great Britain, but it is extremely doubtful if any were wild specimens. It was until recently a common species in North America, but is fast disappearing, and will probably ere long be almost extinct.

Ortyx virginianus (Linn.).—The Virginian Quail has been introduced into England by several game-preservers, but has wholly failed in establishing itself here.

Porzana carolina (Linn.).—One of this common North-American Rail is recorded by Prof. Newton (*P. Z. S.* 1865, p. 196) as having occurred on the Kennet, Berkshire, in October 1864.

Porphyrio martinicus (Linn.)—According to Thompson (Ann. & Mag. Nat. Hist. xviii. 1846, p. 311) one is said to have been killed in Ireland. It inhabits America from Florida to Brazil.

Balearica pavonina (Linn.).—One is stated (Ibis, 1872, p. 201) to have been obtained in Ayrshire, 17th September, 1871. Swainson says that he obtained several specimens when at Malta, and Malherbe says that it is of accidental occurrence on the southern and eastern coasts of Sicily; but Prof. Giglioli has convinced himself (Ibis, 1881, p. 186) that these records are not to be depended on, and that this species must be excluded from the avifauna of Italy.

Edicnemus senegalensis, Sw., is included by Prof. Giglioli (Avif. Italica, p. 367) on the strength of a specimen in the Florence Museum labelled "*Ed. crepitans*, Tuscany," but this appears to me to be insufficient to base any claim to its being recognized as European.

Charadrius dominicus, Müll.—Mr. J. H. Gurney (Ibis, 1883, p. 198) records the occurrence of a specimen of the American Golden Plover in Leadenhall Market in November 1882, and a second is stated to have been obtained in Perthshire in 1883. Mr. Gätke (Vogelw. Helgol. p. 484) obtained one in Heligoland on the 20th December, 1847.

Ægialitis mongolica (Pall.).—Temminck says that it occurs in Russia, and that one was killed near St. Petersburg, but this statement lacks confirmation.

Gallinago wilsoni (Temm.).—A single specimen of the American Snipe is said by Mr. Harting (Handb. Brit. Birds, p. 143) to have been shot at Taplow Court, Bucks, in August 1863, but it is possible that there was an error in the identification of the species.

Symphemia semipalmata (Gm.).—Wallengren states (Naumannia, 1854, p. 256) that the American Willet has once occurred in Upland, Sweden, but I believe this to be very doubtful.

Numenius hudsonicus, Lath.—A single specimen was obtained by Lord Lilford in the Coto de Doñana, Spain, on the 3rd May, 1872.

Sterna bergi, Licht.—One was recorded by Thompson (B. of Ireland, iii. p. 266) as having been obtained near Sutton, between Dublin and Howth, at the end of December 1846; but seeing that it had a black head, and was therefore in full summer plumage, this record is certainly not worthy of belief.

Sterna anæstheti, Scop.—Mr. Howard Saunders exhibited at a meeting of the Zoological Society on the 6th February, 1877, a specimen of this Tern, which was said to have been obtained on a lightship off the British coast, probably either at the mouth of the Thames or of the Medway.

Anous stolidus (Linn.).—According to Thompson (B. of Ireland, iii. p. 308) it has been once obtained between Tusker Lighthouse, off the coast of Wexford, and Dublin Bay, in May 1830. Temminck states that it has occurred on the French coast, but does not give any instance of its capture there.

Larus atricilla, Linn.—According to Montagu one was obtained near Winchelsea in August 1774; but this record is open to grave doubt, and there does not appear to be any authentic instance of its occurrence in Europe.

Larus leucophthalmus, Licht., is stated by Von der Mühle (Beitr. Orn. Griechenl. p. 145) to occur in spring on the coasts of Greece, but this statement lacks confirmation. This Gull inhabits the Red Sea.

Daption capensis (Linn.).—One is said, according to Mr. A. G. More (Ibis, 1882, p. 346), to have been shot near Dublin on the 20th October, 1881, and, according to Degland and Gerbe, three examples have been obtained off the French coasts; but as it belongs to a non-European genus, and inhabits the southern seas, I do not think it advisable to include it.

Estrelata brevipes (Peale).—A single specimen of this West Pacific species was obtained between Borth and Aberystwith in the winter of 1889 (Zool. 1890, p. 454), and was figured by Mr. Salvin (Ibis, 1891, p. 411, pl. ix.), this being the only record of its occurrence in Europe.

Prion ariel, Gould.—A specimen in the Gould collection, now in the British Museum, is stated to have been obtained at Madeira, but there is no other record of its having been obtained within the limits of the Western Palæarctic area. It is an inhabitant of the southern seas.

Phaëthon æthereus, Linn.—Leigh in 1700 includes the Tropic-bird in his 'Natural History of Lancashire,' and, according to Mr. J. H. Gurney, Jun., one, picked up dead at Cradley, near Malvern, was in the collection of Mr. Walcot, and was sold with that collection about 1867, and has since been lost sight of. Naumann (Naumannia, 1851, p. 16) remarks that it is said to have been twice seen off Heligoland; and, according to Degland and Gerbe, the Tropic-bird has been once observed on the coast of Norway, but this statement lacks confirmation.

Diomedea exulans, Linn.—According to Brünnich, one was killed on the coast of Norway, the head and feet of which are preserved in the Copenhagen Museum. Degland and Gerbe state that one was killed near Dieppe, and the head and feet taken to Mr. Hardy, in whose collection they were seen by them. According to Boie (Isis, 1835, p. 259) one was killed near Antwerp in 1833, and three were, according to Degland and Gerbe, said to have been obtained near Chaumont in November 1758.

Diomedea melanophrys.—A single bird which had frequented the island of Myggenæs, Færoe Islands, for the last thirty-four years, consorting with the Gannets, was shot in May 1894 and sent to the Copenhagen Museum. In the Arbuthnot Museum, Peterhead, there is one which was killed June 15th, 1878, in lat. 80° 11' N., long. 4° E., north-west of Spitsbergen.

Thalassogeron culminatus (Gould).—A single example of this Albatross was caught on the ice on Fiskumvand in the parish of Ekers, Norway (Nyt Mag. f. Naturv. i. p. 256), and sent by Professor Boeck to the University Museum, and recorded as *Diomedea chlororhynchos*, Temm. Prof. Collett does not include either this species or *Diomedea exulans* as belonging to the avifauna of Norway, but merely mentions them in a footnote. Nor do I consider it advisable to include any of the three species as European, as they are certainly non-Palæarctic.

Tachypetes aquilus (Linn.).—One is stated by Bechstein (Vög. Deutschl. iv. p. 775) to have been obtained on the Weser in the winter of 1792.

Ossifraga gigantea (Gm.).—According to Brehm (Vogelfang, p. 355) it has once occurred on the Rhine, and, according to Prof. Blasius, the specimen in question is, or was, in the museum at Mayence, and was sent there, already prepared, in 1846 or 1847, but the curator informed him that the skin was in a fresh condition when received.

Mormon corniculata, Naum.—Degland and Gerbe say that it is common in Spitsbergen and Greenland, and not rare in Norway; but this appears to be an error, as the Horned Puffin has not, to my knowledge, been obtained in any of these countries.

Podilymbus podiceps (Linn.).—Dr. R. B. Sharpe exhibited at a meeting of the Zoological Society on the 21st June, 1881, a specimen of this Grebe, which inhabits Northern, Central, and Southern America, which was stated to have been killed at Radipole, near Weymouth, in January 1881; but I can scarcely look on this occurrence without doubt. There is no other record of its having occurred on this side of the Atlantic.

In conclusion, I may remark that, though not recorded as European, *Fringilauda altaica*, Eversm., has occurred at least once (as I am assured by both Professor Menzbier and Dr. Bianchi) in the Ural—at Kara Chobda, near Orenburg, on the 23rd June, 1883. It is a Central-Asiatic species, and breeds in Turkestan and the Altai range.

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